

# Lebanon Valley College



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## Catalog 1985 – 1986

The Bulletin

Volume 19, Number 4

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Fall 1985

# Lebanon Valley College

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Annville, Pennsylvania 17003-0501

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Catalog  
1985 – 1986



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Lebanon Valley College does not discriminate on the basis of race, color, national and ethnic origin, sex, age, religion or handicap.

# Academic Calendar 1985–1986

## FIRST SEMESTER

AUGUST	31	Saturday, 12:00 noon	Residence halls open for new students
	31–2	Saturday–Monday	Orientation for new students
SEPTEMBER	1	Sunday, 12:00 noon	Residence halls open
	2	Monday, 8:30 a.m.	Registration
	2	Monday, 5:00 p.m.	Classes begin
	28	Saturday	Homecoming
OCTOBER	21	Monday, 4:30 p.m.	Mid-semester grades due
	28	Monday, 4:30 p.m.	Change of registration deadline
			Last day to make up I grades
NOVEMBER	12	Tuesday, 8:30 a.m.	Spring registration begins
	21	Thursday, 4:30 p.m.	Registration ends
	22	Friday, 5:00 p.m.	Thanksgiving vacation begins
DECEMBER	2	Monday, 8:00 a.m.	Classes resume
	13	Friday, 4:30 p.m.	Class withdrawal deadline
		5:00 p.m.	Classes end
	14–16	Saturday–Monday	Reading period
	16–21	Monday–Saturday	Final examinations
	21	Saturday, 1:00 p.m.	Semester ends

## SECOND SEMESTER

JANUARY	13	Monday, 12:00 noon	Residence halls open
	14	Tuesday, 8:30 a.m.	Registration
	15	Wednesday, 8:00 a.m.	Classes begin
FEBRUARY	25	Tuesday	Founders' Day
	28	Friday, 5:00 p.m.	Spring vacation begins
MARCH	10	Monday, 8:00 a.m.	Classes Resume
	17	Monday, 4:30 p.m.	Change of registration deadline
	27	Thursday, 5:00 p.m.	Last day to make up I grades
	31	Monday, 5:00 p.m.	Easter vacation begins
APRIL	7	Tuesday, 8:30 a.m.	Classes resume
	15	Tuesday, 4:30 p.m.	Registration for fall begins
	19	Saturday	Registration ends
MAY	1	Thursday, 4:30 p.m.	New student orientation
		9:30 p.m.	Class withdrawal deadline
	2–4	Friday–Sunday	Classes end
	5–9	Monday–Friday	Reading period
	9	Friday, 1:00 p.m.	Final examinations
	10	Saturday	Semester ends
	11	Sunday, 9:00 a.m.	New student orientation
	11	Sunday, 11:00 a.m.	Baccalaureate Service
			117th Annual Commencement

## **SUMMER SCHEDULE 1986**

Mini Term	May 12-23, Monday-Friday
Summer Session I	June 9-July 11
Summer Session II	July 14-August 15
Evening Session I	May 28-July 10
Evening Session II	July 14-August 26
Weekend College	May 17-August 23, alternating weekends

## **Academic Calendar 1986-87**

### **FIRST SEMESTER**

AUGUST	30	Saturday, 12:00 noon	Residence halls open for new students
	30- 1	Saturday-Monday	Orientation
	31	Sunday 12:00 noon	Residence halls open
SEPTEMBER	1	Monday, 8:30 a.m.	Registration
	1	Monday, 7:00 p.m.	Classes begin
	2	Tuesday, 11:00 a.m.	Opening Convocation
OCTOBER	20	Monday, 5:00 p.m.	Change of registration deadline
NOVEMBER	11-20	Tuesday-Thursday	Registration for second semester
	21	Friday, 5:00 p.m.	Thanksgiving vacation begins
DECEMBER	1	Monday, 8:00 a.m.	Classes resume
	13-15	Saturday-Monday	Reading period
	15-20	Monday-Saturday	Final examinations
	20	Saturday, 1:00 p.m.	Semester ends

### **SECOND SEMESTER**

JANUARY	12	Monday, 12:00 noon	Residence halls open
	13	Tuesday, 8:00 a.m.	Registration
	14	Wednesday, 8:00 a.m.	Classes begin
FEBRUARY	27	Friday, 5:00 p.m.	Spring vacation begins
MARCH	9	Monday, 8:00 a.m.	Classes resume
APRIL	7-14	Tuesday-Tuesday	Registration for Fall and Summer
	16	Thursday, 5:00 p.m.	Easter vacation begins
	20	Monday, 5:00 p.m.	Classes resume
	30	Thursday, 9:00 p.m.	Classes end (Friday day classes meet)
MAY	1-3	Friday-Sunday	Reading period
	4-8	Monday-Friday	Final examinations
	8	Friday, 1:00 p.m.	Second semester ends
	10	Sunday, 9:00 a.m.	Baccalaureate Service
	10	Sunday, 11:00 a.m.	118th Annual Commencement

## **SUMMER SCHEDULE 1987**

Mini Term	May 11-22
Summer Session I	June 8-July 10
Summer Session II	July 13-August 14
Evening Session I	May 27-July 9
Evening Session II	July 13-August 25
Weekend College	May 16-August 22, alternating weekends

## **Academic Calendar 1987-88 (tentative)**

### **FIRST SEMESTER**

AUGUST	29-30	Saturday/Sunday	New student orientation
	30	Sunday	Residence halls open
	31	Monday, 8:00 a.m. 5:00 p.m.	Registration Classes begin
OCTOBER	19	Monday, 4:30 p.m.	Mid-semester grades due
	26	Monday, 4:30 p.m.	Change of registration deadline
NOVEMBER	10-19	Tuesday-Thursday	Registration for second semester
	20	Friday 5:00 p.m.	Thanksgiving vacation
	30	Monday, 8:00 a.m.	Classes resume
DECEMBER	11	Friday, 5:00 p.m.	Classes end
	12-13	Saturday-Sunday	Reading period
	14-19	Monday-Saturday	Final examinations
	19	Saturday, 4:00 p.m.	Semester ends

### **SECOND SEMESTER**

JANUARY	11	Monday, 12:00	Residence halls open
	12	Tuesday, 8:30 a.m.	Registration
	13	Wednesday, 8:00 a.m.	Classes begin
FEBRUARY	26	Friday, 5:00 p.m.	Spring vacation
MARCH	7	Monday, 8:00 a.m.	Classes resume
	31	Thursday, 5:00 p.m.	Easter vacation
APRIL	4	Monday, 5:00 p.m.	Classes resume
	5-12	Tuesday-Tuesday	Fall registration
	28	Thursday, 5:00 p.m.	Classes end
	29-1	Friday-Sunday	Reading period
MAY	2-7	Monday-Saturday	Final examinations
	8	Sunday, 9:00 a.m.	Baccalaureate Service
	8	Sunday, 11:00 a.m.	119th Annual Commencement

## To Our Students

Lebanon Valley College offers you a broad-based education that assures the flexibility and sensitivity required for a meaningful life and successful leadership in the Twenty-first Century—an era that many people have thought about only in terms of science fiction.

Because today you may expect to spend part of your life in a profession or career not yet created, the College regularly reviews traditional programs and develops new ones required to equip you for leadership in any level of society. LVC currently offers more than 40 majors and 15 pre-professional programs of study.

You will discover that Lebanon Valley College is gaining recognition as one of America's leadership colleges, and has enhanced its academic and co-curricular programs to provide opportunities for leadership development and sensitivity training that will prepare you to take your place as a professional and community leader.

Welcome to Lebanon Valley College.

# STATEMENT OF PURPOSE

Lebanon Valley College affirms its Christian origins by maintaining affiliation with the United Methodist Church and by recognizing the Christian faith as the perspective for its policies. Both the Christian spirit, which encourages the unhampered search for truth, and the academic program, which gives form to the search for truth, combine to generate free and responsible inquiry by students and faculty.

In accordance with the purposes of its founders, Lebanon Valley College seeks to provide an atmosphere in which the student can respond creatively to the contemporary world. Each person is encouraged (1) to develop a genuine concern for cooperative living and community service; (2) to attain a heightened sense of moral and spiritual values through a deepened awareness of how people have thought of themselves in relation to nature, to society, and to God; (3) to appreciate the close and unmistakable relationship among rational thought, creative imagination, and moral commitment; and (4) to deal candidly and intelligently with the past, the present, and the future and their interrelationship.

The programs of the College are designed to provide a demanding as well as a rewarding encounter with the means necessary to achieve the discovery of self and society; consideration of humanity's most significant ideas and accomplishments; development of logical thought and clear communication; and practice in precise analysis and effective performance. The academic, social, religious, and aesthetic experiences blend to create the atmosphere of the College in a way that fosters enlivened curiosity, discipline of self, and excitement about ideas that are the hallmark of the educated individual.

Lebanon Valley College, with approximately one thousand students and a low student-faculty ratio, in giving life to the concept of liberal arts as expressed in the preceding paragraphs has chosen to maintain an educational institution which is academically strong, guided by the Christian faith, and small enough to give personal attention to all students.

Adopted February 1, 1975  
Lebanon Valley College Board of Trustees

## **Accreditation**

Lebanon Valley College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools.

Lebanon Valley College is also accredited by the Pennsylvania Department of Education, the National Association of Schools of Music and the American Chemical Society.

Lebanon Valley College is on the approved list of the Regents of the State University of New York and of the American Association of University Women.

Lebanon Valley College is a member of the following: National Association of Independent Colleges and Universities; Pennsylvania Foundation for Independent Colleges; College Entrance Examination Board; College Scholarship Service; National Collegiate Athletic Association; Middle Atlantic States Collegiate Athletic Conference; Penn-Mar Athletic Conference; Central Pennsylvania Field Hockey Association; Eastern College Athletic Conference.

## **Affiliation and Governance**

Lebanon Valley College is affiliated with the United Methodist Church. Control of the College is vested in a Board of Trustees composed of 49 elected members; of the 49 members, 24 represent church conferences, 5 represent the alumni, 5 represent the faculty, and 15 (including 3 students) are elected at large.

## **Admissions**

### **High School Preparation**

All admission candidates should have completed 16 credit units and graduated from an accredited secondary school, or present an equivalency certificate (G.E.D.). Of the 16 units, 4 should be in English, 2 in foreign language, 2 in mathematics, 1 in science and 1 in social studies.

### **Application Procedure**

A candidate for admission to Lebanon Valley College must submit a completed application form with the required application fee, Scholastic Aptitude

or American College Test results and an official transcript of high school grades. Students planning to transfer to Lebanon Valley must submit official transcripts of completed college or university work. Lebanon Valley College does not require the College Board Achievement Tests. However, Achievement Tests in foreign language are recommended for students seeking advanced placement.

All candidates are required to visit campus for a personal interview. Applicants for admission into music, sacred music or music education programs are required to audition on campus; audition applications are available from the Admissions Office.

## **Early Decision Admissions Policy**

An Early Decision applicant will be expected to complete an application stating his/her intention to seek consideration as an Early Decision candidate. The application must be accompanied by the required non-refundable application fee no later than November 15. An Early Decision applicant will be notified of the admissions committee decision by December 1. A student accepted as an Early Decision candidate must confirm his/her acceptance by submitting a non-refundable deposit no later than January 1. An applicant not accepted under the Early Decision program will be considered for admission under the regular admission program.

For further information contact:

Admissions Office  
Lebanon Valley College  
Annville, PA 17003-0501  
(717) 867-6180

## **Continuing Education**

Weekend College, Evening School, Summer Sessions, Special Programs, College Study in Lebanon and Extension classes in the University Center at Harrisburg enable teachers, state employees, and others in active employment to take college courses and secure academic degrees. By careful selection of courses made in consultation with appropriate advisors, students can meet many of the requirements for a baccalaureate degree.

Catalogs are published for Weekend College and Evening School and for

Summer School. For information write to the Dean of Continuing Education, Lebanon Valley College, Annville, Pennsylvania 17003.

## **Weekend College and Evening School**

Baccalaureate degree programs are offered in accounting, administration for health care professionals, allied health sciences, computer information systems, general studies, management, psychology, sociology and social service. Certificate programs, each consisting of 30 credit hours, are offered in accounting, banking, business computing, human resources, management, marketing and public relations. Weekend College classes meet on Friday nights or Saturdays in both the academic semesters and the summer. Evening School classes meet one or two nights per week, Monday through Thursday, each week during the academic semesters and twice weekly during the two summer sessions. All classes carry residence credit.

## **Summer Session**

Students enrolled full time, by taking summer session courses, may meet the requirements for the bachelor's degree in three years.

## **College Study in Lebanon**

Certificate programs in accounting and management consist of a 29-semester-hour sequence developed to introduce adults to basic knowledge and skills in accounting or management, while also providing some study in the liberal arts curriculum. The programs are offered in conjunction with Elizabethtown College, and classes are held in Lebanon, Pennsylvania.

## **University Center at Harrisburg**

Extension classes are offered at the Center's campus, 2986 North Front Street, Harrisburg, 17110, on Monday through Thursday evenings during the regular academic semesters. Classes meet during the summer sessions on various evenings. Lebanon Valley College's extension program in Harrisburg is carried on in conjunction with Elizabethtown College, Temple University, The Pennsylvania State University and The University of Pennsylvania. Courses offered by Lebanon Valley College may carry residence credit.

All students admitted and enrolled for a degree at the College are required to secure the permission of their advisors and the Registrar prior to enrolling for any course at the University Center at Harrisburg.

For details pertaining to the University Center at Harrisburg write to the Director at 1986 North Front Street, Harrisburg, Pennsylvania 17110, or call 717-238-9694 during the day or 717-238-9696 during the evening.

## **Student Finances**

Payment for tuition, room, board, and other charges is due by a published deadline prior to the beginning of each semester. Students failing to meet this deadline will be required to make special arrangements with the Business Office before their course registrations will be processed. Questions about student finances should be addressed to the Business Office.

## **Refund Policy**

Students withdrawing from a course, or the school, will receive a refund prorated according to the following schedule.

Time Period	Refund
During the first week of classes	100%
During the second week of classes	80%
During the third week of classes	50%
After the third week of classes	0%

Summer School	
During the first week of classes	100%
During the second week of classes	50%
After the second week of classes	0%

Students with questions about financial aid should contact the Financial Aid Office, Lebanon Valley College, Annville, Pennsylvania, or call (717) 867-6207.

## **Student Services**

The College provides a variety of services to students including: academic, financial, career, religious and personal counseling; health care; and athletic, recreational and extra-curricular activities. Further information about student services may be obtained from the Office of the Vice President for Student Affairs.

# ACADEMIC REGULATIONS AND PROCEDURES

The rules of the College are designed to provide for proper regulation of the academic community. The rules and regulations as stated in this bulletin are announcements and in no way serve as a contract between the student and the College. Attendance at the College is a privilege and not a right. The student by his act of registration concedes to the College the right to require his withdrawal any time deemed necessary to safeguard the ideals of scholarship and character, and to secure compliance with regulations. It is expected that the conduct of all campus citizens will conform to accepted standards. All students are required to respond to communications sent by any duly constituted authority of the College.

## Degrees

### **Baccalaureate Degrees**

Lebanon Valley College confers six baccalaureate degrees. Candidates for graduation must be recommended by the faculty and approved by the Board of Trustees.

The Bachelor of Arts is conferred upon students who have completed the requirements in the following major programs: English, foreign language, French, general studies, German, history, music, philosophy, political science, psychology, religion, sacred music, sociology, Spanish and certain individualized majors.

The Bachelor of Science is conferred upon students who have completed the requirements in the following major programs: accounting, actuarial science, biochemistry, biology, management, chemistry, computer information systems, computer science, cooperative engineering, cooperative forestry, economics, elementary education, general studies, international business, mathematics, music education, physics, psychobiology, social service and certain individualized major programs.

The Bachelor of Science in Chemistry, the Bachelor of Science in Medical Technology, the Bachelor of Music, the Bachelor of Music in Sacred Music, and the Bachelor of Music in Sound Recording Technology are conferred upon students who have completed the requirements for the appropriate major programs.

## **Associate Degrees**

The College confers three associate degrees. Candidates for graduation must be recommended by the faculty and approved by the Board of Trustees.

The Associate of Arts and the Associate of Science degrees are conferred upon students who have completed the requirements in the general studies program.

The Associate of Applied Science degree is conferred upon students who have completed the requirements in the food service, hotel and travel administration majors.

## **Privacy of Student Records**

In accordance with the Family Rights and Privacy Act of 1974 the College releases no student education records without written consent and request of the student, or as prescribed by law.

A student has the right to inspect his or her educational records maintained by the College. It is the student's responsibility to contact the appropriate office of the College to make the necessary arrangements.

The College makes public such directory information as name, address, telephone, date of birth, major field of study, degrees and awards received, previous schools attended, participation in activities, and athletic information.

## **Credit Hours**

A credit hour is the unit used to measure academic progress. Each course has a credit designation approximately equal to the number of hours to be spent in class each week. A course requiring three hours of class attendance each week will carry three credit hours. Credit for laboratories is generally awarded at one-half the regular rate.

## **Graduation Requirements**

Candidates for a baccalaureate degree must obtain 122 credit hours. Credit hours are accumulated in three separate categories: general education requirements, major requirements, and electives.

Candidates for an associate degree must accumulate at least 60 credit hours, including the coursework appropriate to their major program. Fifteen of the last eighteen credit hours toward the degree must be in residence.

The general education program is that part of the curriculum that is shared by all students in all majors. The eight areas of required courses reflect 44 – 47 credit hours.

There are 43 major programs available at the college. Each of these majors requires at least 24 credit hours of coursework. The specific requirements of each major program are listed later in the catalog. All students must declare their majors before registering for the junior year.

Electives are those courses selected by the student that reflect neither major nor general education requirements.

Candidates for degrees must also take in residence 30 credit hours of the 36 taken immediately prior to graduation. Coursework taken in all of the College's programs, plus those at University Center at Harrisburg, qualify as work done in residence.

## **Advising Program**

Each student has a faculty advisor whose role is to counsel about registration procedures, course selections, academic requirements, and regulations. The student is required to obtain the advisor's counsel and approval before registration, withdrawal, election of pass/fail option, and/or change in credit/audit status.

## **Academic Procedures**

### **Arrangement of Schedules**

Each student arranges a semester program of courses in consultation with, and by approval of, his faculty advisor. Students already in attendance do this during registration periods. New students accomplish this on orientation days.

### **Limit of Hours**

To be classified as full time, a student must take at least twelve credit hours of work in a semester. Seventeen credit hours of academic work is the maximum permitted without approval of the advisor and permission of the Registrar. Audited courses are counted in determining the course load, but physical education, music organizations, and RS 110 (Reading and Study Skills) are not. To be permitted to take more than 17 credits the student should have a cumulative grade point average of 3.0 or higher, or be enrolled in the honors program, or be a last semester senior. A fee will be charged for each additional credit over 17.

## **Class Standing**

Students are classified academically at the beginning of each year. Membership in the sophomore, junior or senior classes is granted to students who have earned a minimum of 28, 56, or 84 credit hours respectively.

## **Transfer Credit**

A student applying for advanced standing after having attended another accredited institution shall send an official transcript to the Dean of Admissions. If requested, the student must provide copies of the appropriate catalogs for the years of attendance at the other institution or institutions.

Credits are accepted for transfer provided the grades are C – (1.7) or better and the work is equivalent or similar to work offered at Lebanon Valley College. Grades thus transferred count for credit hours only, not for quality points.

A candidate for admission holding an associate degree from a regionally accredited college can be admitted with full acceptance of coursework at the previously attended institution. Coursework in the major field, however, for which the applicant has received a D will not be counted toward fulfilling the major requirement.

Because Lebanon Valley College is a liberal arts institution, consideration of full acceptance of the associate degree will be granted with the understanding that the candidate has followed a basic course of study compatible with the curriculum and academic programs of the College and has been enrolled in a transfer program.

In most instances the applicant may be expected to complete the baccalaureate degree within two years. However, when the requirements of a particular major field or the nature of the previous study demand additional work beyond two years, the applicant will normally be notified at the time of admission.

## **Discontinuance of Courses**

The College reserves the right to withdraw or discontinue any course.

## **Registration and Preregistration**

Students are required to register for courses on designated days of each semester; these dates are listed in the official college calendar. Students who register later than the designated times will be charged a fee. Students desiring to register later than one week after the opening of the semester will be admitted only by special permission of the Registrar.

## **Change of Registration**

Change of registration, including pass/fail elections, changes of course hours credit, changes from credit to audit and vice versa, must be approved by signature of the advisor. In most instances registration for a course will not be permitted after the course has been in session for one full week. With the permission of the advisor, a student may withdraw from a course at any time through the last day of semester classes (see grading policy). A fee is charged for every change of course made at the student's request after registration.

## **Auditing Courses**

Students may register to audit courses with approval of the academic advisor. Audited courses are counted in considering the course load relative to limit of hours (overload). The regular tuition fee is charged to part-time students. Neither grade nor credit is given either at the time the course is audited or thereafter. A grade of AU (audit) will not be entered on the student's permanent record card if the student seldom attended classes. A change of registration from credit to audit or from audit to credit must be accomplished by the end of the eighth week of semester classes.

## **Pass/Fail**

After attaining sophomore standing (28 credit hours) a student may elect to take up to two courses per semester and one per summer session on a pass/fail basis; however, only six such courses can be counted toward graduation requirements. No courses taken pass/fail may be used to meet either general education, major course area requirements, or pre- or co-requisites for classes. A student may select or cancel a pass/fail registration any time during the first eight weeks of a semester.

## **Repetition of Courses**

A student may repeat as often as desired, for a higher grade, a previously taken course, subject to the following provisions: the course must have been taken in all registrations on campus and/or in courses staffed by the College at the University Center at Harrisburg. Semester hours credit are given only once. The grade received each time taken is computed in the semester grade point average. The higher or highest grade is used to compute the cumulative grade point average. Each semester grade report will show hours credit each time passed, but the total hours toward degree will be equal only to the semester hours credit for the course. For a course previously passed P/F, the grade received in the subsequent registration for regular grade is the "higher grade." Each grade received remains on the permanent record card and a notation is made thereon that the course has been repeated.

## **Concurrent Courses**

A student enrolled for a degree at Lebanon Valley College may not carry courses concurrently at any other institution or in Weekend College or the University Center at Harrisburg without prior consent of his advisor and the Registrar.

A student registered at Lebanon Valley College may not obtain credit for courses taken during the summer in another college, including the University Center at Harrisburg, unless such courses have prior approval of his advisor and the Registrar.

## **Attendance Policy**

Each student is responsible for knowing and meeting all requirements for each course, including regular class attendance. At the opening of each course the instructor shall clearly inform the students of class attendance regulations. Violations of those regulations will make the student liable to being dropped from the course. Upon the recommendation of the instructor and the approval of the Registrar a grade of W will be assigned during the first eight weeks of the semester, and an F will be assigned after that date.

In case of short absences from class the student shall speak directly with the instructor. The student shall inform the Registrar only if the absence could not be anticipated and extends for more than a week. The Registrar informs the faculty of students who will be absent due to an official function of the College.

Excused absences do not absolve students from the necessity of fulfilling all course requirements.

## **Credit by Examination and Life Experience**

Lebanon Valley College recognizes the ability of superior students to master specific areas of study on their own initiative and provides programs to allow these students the opportunity to gain credit. Any regularly matriculated student, in an approved degree program, may earn a maximum of 30 credits toward a bachelor's degree or a maximum of 15 credits toward an associate's degree through non-traditional means (experiential credit, advanced placement, CLEP, challenge examinations).

## **Academic Policy on Challenge Exams**

Only the courses formally listed in the College curriculum may be challenged for credit. Full-time students should request challenge examinations through their academic advisors. Part-time students and those students enrolled through the continuing education program should make application for chal-

lenge exams through the Continuing Education Office. All requests must be approved by the Registrar and the chairperson of the department in which the course is listed.

Challenge exams are considered to be comprehensive examinations in the subject area and are graded Pass/Fail. The grading criteria for passing a challenge exam will be determined by each department. A "pass" indicates that the credit is to be awarded. A failing grade on a challenge exam will not be recorded on the permanent record. The exact nature of the examination will be determined by the faculty member and chairperson of the department involved and may include any means of evaluation normally employed by the department. There is a fee for each challenge examination. This fee is for preparation and grading of the examination and is charged without regard to the test results.

Challenge exams may not be taken by students who have received any grade in a course equivalent to or more advanced than the courses for which the student is requesting credit by examination. Challenge exams may not be used for the purpose of acquiring credit for a course previously failed. Practicums, internships, seminars, research courses, independent study, and courses with required laboratory components are not subject to credit by examination.

## **Advanced Placement**

Advanced Placement with credit in appropriate courses will be granted to entering students who make scores of 4 or 5 on College Board Advanced Placement examinations. For scores of 3, final determination is made by the appropriate department.

Advanced Placement without credit may be granted on the basis of the Achievement Tests of the College Board examinations or such other proficiency tests as may be determined by the Registrar and by the chairman of the department.

## **CLEP (College Level Examination Program)**

Credit will be granted to those students who score well on CLEP examinations that are approved by the College. To receive credit, a student must score above the 50th percentile on the objective section and above a C, as determined by the appropriate academic department, on the essay section.

A maximum of 6 credits will be awarded for each examination; of these credits, only 3 may be applied to the general education requirements, in the

appropriate area. Credit is only granted to students who have matriculated at Lebanon Valley College. Requests for CLEP credit must be approved by the Registrar before the student has completed 30 credits in residence.

## **Credit for Life Experience**

Lebanon Valley College provides for the awarding of undergraduate academic credit for knowledge acquired through non-academic experience in areas where the College offers instruction. The experience should bear a direct relation to the material taught in a course in the College curriculum and should extend over a sufficient period to provide substantive knowledge in the relevant area. Regularly matriculated students who, in approved degree programs, believe they qualify for such credit may petition the appropriate department through their academic advisors. Students enrolled through the continuing education program must petition through the Continuing Education Office. This petition must (1) detail the experience in question, (2) provide appropriate supporting evidence, (3) note the equivalent College course by department and number, and (4) state the number of credit hours sought. The appropriate department will consult with the academic advisor or the Continuing Education Office to determine the best means (interview, examination, portfolio, etc.) for evaluating the experience.

Approval of experiential credit for full-time students must be made in writing over the signatures of the academic advisor, the appropriate department chairperson, and the Dean of the Faculty. Approval of experiential credit for students enrolled through the continuing education program must be made in writing over the signatures of the Dean of Continuing Education, the appropriate department chairperson, and the Dean of the Faculty. The credit will be recorded upon completion of the most recent semester in which the student was enrolled for credit courses taken in residence.

Experiential credit cannot exceed six credit hours in one academic year and cannot exceed a maximum of twelve credit hours in the degree program. A maximum of 30 credit hours toward a Bachelor's degree or a maximum of 15 credit hours toward an Associate's degree may be earned through non-traditional means (challenge exams, CLEP, advanced placement, experiential credit). Grades will not be assigned to experiential credit.

## **Grading Systems and Grade Point Averages**

Student work is graded A (distinguished performance), B (superior work), C (satisfactory achievement), D (requirements and standards met at a minimum

level), F (course requirements not met). For each credit hour in a course in which a student is graded A, he receives 4.0 quality points; A-, 3.7; B+, 3.3; B, 3.0; B-, 2.7; and so on. F carries no credit or quality points. The cumulative grade point average is calculated by dividing the quality points by the credit hours completed.

Candidates for a degree must obtain a cumulative grade point average of 1.75, and a major grade point average of 2.0. Only grades in courses staffed by Lebanon Valley College at the University Center, or in work taken through the International Student Exchange Program, the Germantown Metropolitan Semester and the LVC-Washington Semester programs are to be used to determine the grade point averages.

A student may not take a course that has a prerequisite course he has failed. In addition to the above grades the symbols I, W, WP, and WF are used. I indicates that the work is incomplete (certain required work postponed by the student for substantial reason with the prior consent of the instructor), but otherwise satisfactory. This work must be completed within the first eight weeks of the next semester, or the I will be changed to an F. Appeals for an extension of time must be presented to the Registrar by the first week of the next semester. W indicates withdrawal from a course through the eighth week of semester classes. In case of withdrawal from a course thereafter through the last day of semester classes, the symbol WP is used if the work has been satisfactory, and WF if unsatisfactory. The grade of WF is calculated as an F in the grade point averages. For physical education a grade of either S (satisfactory) or U (unsatisfactory) is recorded.

Once a grade has been recorded it may not be changed without the approval of the instructor and the Registrar. Students who feel the grade may be inaccurate should contact the instructor at once, but in no case later than the end of the semester following the course in question.

## **Academic and Graduation Honors**

### **The Dean's List**

Students achieving a 3.40 grade point average while carrying at least 12 credit hours will be named to the Dean's List at the end of each semester.

### **Graduation Honors**

After completing a minimum of 60 credit hours of in-residence work a student may qualify for graduation honors. The honors to be conferred are Summa Cum Laude for grade point averages of 3.75-4.0, Magna Cum Laude

for grade point averages of 3.60 – 3.74, and Cum Laude for grade point averages of 3.40 – 3.59.

### **Phi Alpha Epsilon**

Students graduating with grade point averages of 3.50 are eligible for induction into Phi Alpha Epsilon.

### **Academic Dishonesty**

Instances of open and conclusive academic dishonesty are dealt with in accordance with the following regulations: for the first offense the faculty member shall have the authority to fail the student in the course; for the second offense the student shall be failed in the course and additional action taken, up to and including expulsion from college, if deemed warranted by the Dean of the Faculty; for the third offense, if the second act of dishonesty did not warrant expulsion in the opinion of the Dean of the Faculty, the student shall be failed in the course and expelled from the College.

### **Probation**

A student can be placed on academic probation, suspended or dismissed if his academic standing fails to come up to the grade point average shown in the following table:

	Probation	Suspension or Dismissal
1st semester	1.25	
2nd semester	1.50	1.25 cumulative
3rd semester	1.65	
4th semester	1.75	1.50 cumulative
5th semester	1.75	
6th semester	1.75	1.65 cumulative
7th semester	1.75	in all courses
8th semester	1.75	

A student placed on academic probation is notified of such status by the Dean of the Faculty and informed of the College regulations governing probationers. Students on probation are expected to regulate their work and their time in a most determined effort to bring their performances up to the required standard.

A student on probation who desires to begin a new activity or continue in an activity already begun, shall submit an appeal to the Vice President for Student Affairs. After consultation with the student's major advisor and parents, the Vice President for Student Affairs will render a binding decision.

## **Suspension**

A student who obviously fails to achieve at a level commensurate with his measured ability may be suspended for at least one semester. This suspension may occur without any prior probationary period. A student suspended for academic reasons is not eligible for reinstatement for one semester.

A student seeking reinstatement to Lebanon Valley College must apply in writing to the Dean of the Faculty.

A student twice suspended for academic reasons shall be considered for readmission, upon application, only if the following conditions are fulfilled: (a) firm evidence of renewed interest and motivation; (b) completion of a significant amount of appropriate academic work at an accredited institution subsequent to his second suspension; (c) recommendation of the appropriate academic department for readmission on a probationary status. The student must achieve at a level that assures successful completion of this program or be subject to dismissal.

## **Dismissal**

A student dismissed for academic reasons is not eligible for readmission.

## **Withdrawal from College and Readmission**

Official withdrawal from the College is accomplished only by the completion of withdrawal forms obtained from the Registrar. This is the sole responsibility of the student. Application for readmission should be in writing and sent to the Dean of the Faculty.

## **Transcripts**

Each student, former student, or graduate is entitled to one transcript of his college record without charge. For each subsequent copy requested, a fee is charged.

## **Veterans' Services**

Veterans who are eligible to receive educational benefits must report their enrollment to the Registrar after they register for each semester or summer session. The Registrar will then submit certification to the Veterans Administration.

Veterans who are attending Lebanon Valley College for the first time must complete the appropriate forms in the Registrar's Office before certification will be sent to the Veterans Administration.

Veterans with questions about the College or their status with the College should contact the Registrar.

## **Serviceman's Opportunity Colleges**

Lebanon Valley College has been designated as an institutional member of Serviceman's Opportunity Colleges (SOC), a group of over 400 colleges providing postsecondary education to members throughout the world. As an SOC member, Lebanon Valley College recognizes the unique nature of the military lifestyle and has committed itself to easing the transfer of relevant course credits, providing flexible residency requirements, and crediting learning from appropriate military training and experiences.

## **Teacher Certification for Non-Matriculated Students**

Lebanon Valley College offers teacher certification to a variety of special students. Students with degrees from other colleges, or teachers seeking certification in other fields, or Lebanon Valley College alumni seeking certification for the first time may receive certification. All students must present official transcripts of college work, or their previous teacher certification to the Office of the Registrar. The Education Department, the Registrar and the appropriate academic department will evaluate the record and recommend the appropriate course of action. A fee will be charged for this service.

## **Off-Campus Programs**

The College offers several off-campus experiences for which students may register and receive credit.

### **Germantown Metropolitan Semester**

This is a one-semester program of a pre-professional internship and academic seminars relating to the city. The program is sponsored through the Metropolitan Collegiate Center of Germantown, Philadelphia, Pennsylvania. Internships are available in a diverse range of social service, mental health, law, research and other agencies. Information is available from the Department of Sociology.

### **Study Abroad**

Students have opportunity for study abroad through the College's membership in the International Student Exchange Program, which consists of a network of more than 150 colleges and universities in 24 countries. Details are available from the Dean of the Faculty. The College also assists students in locating and gaining admission to other foreign study programs; however, participation in programs other than the International Student Exchange Program may affect the level of financial aid provided. In all cases, the proposed course of study must be approved by the appropriate department chairman and the Registrar.

### **Washington Semester Program**

Juniors and seniors in any major field who have at least a 2.5 grade point average, and have had basic courses in American national government and are properly recommended are eligible to participate in this program. We offer this program in cooperation with The American University in Washington, D.C. Information is available from the chairman of the Department of History and Political Science.

# ACADEMIC PROGRAMS

## General Education Program and Requirements

The College expresses its commitment to the liberal arts most directly by supporting a wide selection of courses in a variety of academic areas. The general education program enables each student to encounter the content and methods of those areas. The program's chief goals are thus to provide the essential foundation for the growth of knowledge and for making the connections between experience and learning.

All degree students must complete the program outlined below. No course taken pass/fail or required for the first major may be used to meet the requirements of the general education program. Mathematics and computer science majors are exempt from the requirements of Area 2.

**Area 1. Communication.** 6 credit hours. To develop effective speaking and writing skills. Two sequential courses in English composition. En 111, 112; or HC 201.

**Area 2. Mathematics and Computers.** 3–6 credit hours. To understand mathematics as a way of thinking and as a tool for problem solving. One integrated mathematics/computer course (MA 100) or one mathematics course and one computer course. Eligible courses are CS 147 or 170 plus one from MA 111, 150, 160, 161, 170. MA 100 fulfills entire requirement.

**Area 3. Foreign Language.** 6 credit hours. To gain perspective on the role of language in human affairs. Two sequential courses in a foreign language (or exemption by examination). All foreign language courses numbered 101,102 and 201,202 are eligible.

**Area 4. Historical and Cultural Contexts.** 9 credit hours. To establish the background and explore the nature of human society. One history course (GE 120), one general course in culture (GE 140) and one course introducing a single social science. Eligible courses are EC 100, FL 250, GEO 112, PS 110, PSY 100, SO 110, SO 120, or HCC 202.

**Area 5. Science and Technology.** 7–8 credit hours. To discover scientific principles and discuss related moral and ethical questions. Two laboratory courses in biology, chemistry, physics or psychology (the two courses need not be in the same science). Eligible courses are BI 101, 102, 111, 112, CH 100, 111, 112, 113, 114, PHY 100, 103, 104, 111, 112, or PSY 120.

**Area 6. Aesthetic Experience.** 6 credit hours. To learn to appreciate works of art and gain insight into the creative process. One interdisciplinary course (GE 160) and one course in art, music or literature. Eligible courses are AR 110, 201, 203, EN 200, 227, 228, FR 311, 312, GER 311, 312, MU 100, 341, 342, SP 311, 312 or HC 204.

**Area 7. Values, Persons and World Views.** 6 credit hours. To explore the relationship between world views and value systems. Two courses in religion or philosophy (the two courses need not be in the same discipline). PH 110, 220, 230, 240, RE 110, 111, 112, 120, 140, 222 or HC 203.

**Area 8. Physical Activity.** 2 credit hours. To develop an interest in physical activity as a part of total fitness. Two courses in physical education involving conditioning or life-long sports. Any physical education course is eligible.

## General Education Courses

These three interdisciplinary courses are required of all students by the general education program of the College.

**GE 120. The Western Experience: Our Cultural Heritage.** A study of how life in the late Twentieth Century has been influenced by historical developments in Europe and America, including the growth of science, the rise of national states, social classes and values, and changing views of the world. 3 credits.

**GE 140. Human Culture and Behavior.** Culture as a context of human behavior. The nature and definition of culture. The biological and social sources of culture. Culture, language, and personality. The impact of culture on social life and on the individual; examples from Western and non-Western sources. 3 credits.

**GE 160. The Aesthetic Experience.** The artist's achievement. Interrelationships among the arts. The creative process. Questions of form versus content. Art as the product of a specific socio-historical context. 3 credits.

## Honors Program

The honors program is designed for superior students who are keenly motivated to expand their intellectual horizons, develop their originality and curiosity, and challenge their intellectual abilities.

The program seeks to sharpen critical and analytical thinking, develop verbal and written expression, encourage intellectual independence, and foster sensitive and informed investigation of human values.

To achieve these goals, the program offers a demanding, stimulating and integrated alternative to the general requirements of the College.

Entering students and first semester freshmen are selected on the basis of interviews and scholastic records.

Requirements: Students graduate with college honors after they have completed the honors program with a 3.0 grade point average or better overall and in the honors courses.

## **Honors Courses**

**201. Honors Communication.** Writing and speaking clear, grammatical and articulate English. Listening and reading well. Searching information sources and applying those sources ethically. Analyzing and drawing conclusions. 3 credits.

**202. The Individual and Society.** An investigation into the structures of society, their origins, and their impact upon human values. Emphasis on the interaction of the individual and the socio-cultural environment. Evaluation of the approaches of the various social sciences. 6 credits.

**203. Human Existence and Transcendence.** A close examination of questions and issues pertaining to human existence and the ways in which mankind has attempted, religiously and philosophically, to rise above the conditions of human existence. This course seeks to describe and examine the commonalities and differences between religion and philosophy as each discipline addresses itself to existence and transcendence. 6 credits.

**204. Human Creativity.** A study of the major forms of literature, music, and plastic art, designed to acquaint students with functions, values, and aesthetic and cultural contexts of art, as well as to enhance their responses to art works. 6 credits.

## **Honors Seminars**

Two honors seminars are included in the honors curriculum. These seminars are intensive studies of topics chosen by junior and senior honors students and may be interdisciplinary subjects taught by a team of professors from two or more academic departments. 3 credits per semester.

## **Honors Independent Study**

An independent study project, the capstone of the honors program, provides the opportunity to carry out an extensive academic study of the student's own design. The project, overseen by a faculty member, must be approved by the honors director. When acceptable to an academic department, such independent study may serve as the basis for departmental honors. Upon completion, the project will be presented publicly. 3 credits.

## **Graduation Requirements**

In addition to the honors program and major requirements, honors students take: two one-semester courses in science (eligible courses are BI 111–112, CH 111, 112, 115 with labs 113, 114, PSY 120, PHY 103, 104, 111, 112), A foreign language on the intermediate level or above (eligible courses are any language 201–202, 311 or 315), a one-semester integrated course in mathematics and computer science (MA 100), and two courses in physical education.

## **Departmental Honors**

All major programs provide the opportunity for departmental honors work during the junior and senior years. For specific information, interested students should contact the appropriate department chairman. Generally, departmental honors consists of a reading and/or research project producing a thesis or essay. This project is undertaken on a subject of the student's own choosing under the supervision of a faculty advisor. Opportunity also exists to do creative work. A maximum of 9 hours credit may be earned in departmental honors.

# COURSE DESCRIPTIONS

## Art

The Art Department, although not offering a major, provides the opportunity for creative expression and a richer understanding of man's accomplishments in the visual arts.

### Courses in Art

**110. Introduction to Art.** An exploration of meaning in the visual arts. The subject is approached through discussions of perception, the aesthetic experience, and form/content analyses of painting, sculpture, and architecture. 3 credits.

**140. Drawing, Painting and Printmaking.** An introduction to the materials and processes of drawing, painting, and printmaking. Spatial perception, composition, light and dark as well as color relationships are major areas of study. 3 credits.

**191 – 198. Special Topics.** 1 – 6 credits.

**201. Art History I. Prehistoric through Medieval Art.** A stylistic survey from paleolithic through medieval art, including a focus on the artist's role within society. 3 credits.

**203. Art History II. Renaissance to Twentieth Century.** A survey of individual masters and their major schools, the course covers the period from the close of the medieval era to the modern day and includes stylistic analyses and historical contexts for the painting, sculpture, and architecture of each period. 3 credits.

**291 – 298. Special Topics.** 1 – 6 credits.

**391 – 398. Special Topics.** 1 – 6 credits.

**401. Art in the Elementary School.** Introduction to creative art activity for children in elementary school. Topics covered include philosophical concepts, curriculum, evaluation and studio activity involving a variety of art media, techniques, and processes. 3 credits.

**491 – 498. Special Topics.** 1 – 6 credits.

## Biochemistry

The major in biochemistry is an interdisciplinary program that provides an opportunity for interested students to engage in a comprehensive study of the chemical basis of biological processes. It is designed to prepare students for advanced study in medical, dental, and other professional schools, for graduate programs in a variety of subjects including biochemistry, clinical chemistry, pharmacology, molecular biology, genetics, microbiology, and physiology, and for research positions in industrial, academic, and government laboratories.

**DEGREE:** B.S. degree with a major in biochemistry.

**MAJOR:** BI 111, 112, 201, 202 and/or 307, 306, 401 (24 hours); BCH 421, 422, 430, 480 (9 hours); CH 111, 112, 113, 114, 213, 214, 215, 216, 311, 312, 319, 323, (29 or 30 hours); MA 161, 162 or 166 (6 hours); PHY 103/104 or 111/112 (8 hours).

## Courses in Biochemistry

**421, 422. Biochemistry I, II.** A course in the physical and organic aspects of living systems. Prerequisites: CH 214, 216, and 312 or approval of the departmental chairman. 3 credits per semester.

**430. Biochemistry Laboratory.** Investigations of the properties of proteins, nucleic acids, carbohydrates, and lipids. Prerequisites: CH 214, 216. 1 credit.

**491–498. Special Topics.** 1–6 credits.

**499. Biochemistry Seminar.** Readings, discussions, and reports on special topics in biochemistry. 1 credit.

**500. Independent Study.** Prerequisites or corequisites: CH 311, 312, and permission. 2–3 credits per semester (maximum of 9).

## Biology

The aims of the program for biology majors are: (1) to provide a thorough understanding of the principles of biology and background in disciplines basic to biology; (2) to develop skills in the application of the scientific method and in the retrieval and communication of technical information; and (3) to train students for employment at the baccalaureate level and to

provide preparation for those interested in graduate, professional and medical programs.

**DEGREE:** B.S. degree with a major in biology.

**MAJOR:** BI 100, 111, 112, 201, 302 or 307, 499; one course each in the general areas of physiology, cellular and subcellular biology, and morphology; and 4 additional hours of biology for a minimum of 34 hours. Also required are two years of chemistry; PHY 103, 104 or 111, 112; and MA 161 or 111. BI 111/112 are pre-requisites for all courses beyond the biology 1 level unless noted otherwise.

## **Cooperative Programs**

### **Forestry and Environmental Studies**

Students completing a three-year program at Lebanon Valley College studying the liberal arts and the sciences basic to forestry and environmental sciences may apply for admission to the cooperative forestry program with Duke University. Upon completion of the first year of the two-year (plus one summer) program at Duke University, the student will receive the Bachelor of Science degree from Lebanon Valley College. After completion of the program at Duke, the student will receive the professional degree of Master of Forestry (M.F.) or Master of Environmental Management (M.E.M.) from Duke University. Students may major in biology, economics, political science or mathematics at Lebanon Valley College.

**REQUIREMENTS:** Required courses, regardless of major, include BI 111/112, 302; EC 110/120; MA 161 or 111, and MA 170, plus those courses necessary to meet the general requirements of the College. Additional required course work varies depending upon whether the student majors in economics, biology, mathematics or political science.

### **Allied Health Sciences**

The College maintains a cooperative program ("2 + 2") with Thomas Jefferson University in Philadelphia, PA for students interested in nursing, physical therapy, occupational therapy, dental hygiene, radiologic technology, diagnostic medical sonography, cytotechnology, and medical technology. Students spend two years at Lebanon Valley College taking required courses in the basic sciences and other areas. During the second year, application

made to Thomas Jefferson University where the students take courses in their area of specialty. Admission to the Jefferson phase of the program is not automatic and depends upon grades, recommendations, and an interview. Upon successful completion of the program, the student is awarded the baccalaureate degree from Thomas Jefferson University.

The College also maintains a cooperative program with Hahnemann University in Philadelphia for students interested in medical technology ("2 + 3"). The student spends two years at Lebanon Valley College and three years at Hahnemann University. Admissions procedures are similar to those described above. Upon successful completion of this program, the student is awarded the baccalaureate degree from Hahnemann University.

Lebanon Valley College also has its own major in allied health sciences for those individuals who already possess an RN, RT, or other professional designation from an accredited hospital or community college program. Up to 60 hours of credit will be awarded for work achieved in the previous program. At Lebanon Valley College the individual takes a series of core courses and a concentration in either management, science or other areas as deemed appropriate by the director of the allied health sciences program. Lebanon Valley College awards the B.S. degree with a major in allied health sciences to those who have successfully completed the program.

### **Medical Technology and Nuclear Medicine Technology**

The College has its own major in medical technology. The student takes three years of courses to fulfill the requirements of the College and of the National Accrediting Agency for Clinical Laboratory Sciences. Before or during the third year of the program, a student applies to a hospital with a CAHEA approved school of medical technology where he/she spends the fourth year in training. Admission is not automatic and depends upon the academic record, recommendations and an interview. Upon satisfactorily completing the clinical year, the student is awarded the degree of Bachelor of Science in Medical Technology by Lebanon Valley College. The College is affiliated with the following hospitals: Abington Memorial Hospital, Sacred Heart Hospital (in Allentown), Harrisburg Hospital, Polyclinic Medical Center of Harrisburg, Jersey Shore Medical Center-Fitkin Hospital, Lancaster General Hospital, and Reading Hospital and Medical Center. However, the student is not limited to these affiliations and may seek acceptance at other approved hospitals. (Refer to the Allied Health Sciences section for additional programs in medical technology.)

The College offers a program for students interested in nuclear medicine technology ("3 + 1"). The College is affiliated with the schools of nuclear medicine technology at the University of Virginia Medical Center and J.F. Kennedy Medical Center, Edison NJ. Admission is not automatic and depends upon the academic record, recommendations and an interview. Application may also be made to other accredited programs. Upon successful completion of the program, students are awarded the baccalaureate degree by Lebanon Valley College.

## **Courses in Biology**

**100. Biology Orientation.** A general discussion of the various skills necessary for success in the biological sciences. Topics will include data presentation and interpretation, biological illustration, the biological literature and library resources, scientific writing, abstracting, laboratory procedures, preparation for examinations, independent study, and career opportunities in biology. Required for all freshman biochemistry and biology majors, and allied health science students. Open to students enrolled in BI 111. No prerequisite. One credit.

**101. Human Biology I.** This course, designed for the non-science major, utilizes the human organism as the primary focus for elucidating physiological principles. Topics include nutrition, homeostasis, major organ systems, immunity, and exercise physiology. Laboratory exercises include sensory physiology, respiration, blood pressure, and ECG. 4 credits per semester.

**102. Human Biology II.** This course, also designed for the non-science major, emphasizes the mastery of certain biological principles as applied primarily to humans. Topics include reproduction, development, classical and molecular genetics, and ecology. Laboratory exercises supplement lecture topics. 4 credits per semester.

**111/112. General Biology I, II.** These courses, designed for science majors, involve rigorous studies of basic biological principles. Biology 111 emphasizes cell biology, genetics, taxonomy, and evolution. Biology 112 covers concepts in physiology, embryology, botany and ecology. 4 credits per semester.

**191 – 198. Special Topics.** 1 – 6 credits.

**201. Genetics.** A study of the principles, mechanisms and concepts of classical and molecular genetics. The laboratory stresses key concepts of genetics utilizing both classical and molecular approaches. Prerequisites: one year of chemistry or permission. 4 credits.

**221. Comparative Vertebrate Anatomy.** The comparative anatomy of vertebrates with emphasis on the evolutionary relationships among the various lines of vertebrates. Intensive laboratory work involves dissections and demonstrations of representative vertebrates. 4 credits.

**291–298. Special Topics.** 1–6 credits.

**302. Survey of the Plant Kingdom.** The development and diversity of plants and the relationships between them. Field and laboratory work will familiarize the student with the structure of plants and with the identification of flowering plants in the local flora. Prerequisite: Biology 112 or permission. 4 credits.

**304. Developmental Biology.** The study of basic descriptive phenomena in the development of typical invertebrate and vertebrate embryos, with a consideration of modern embryological problems. 4 credits.

**305. Vertebrate Histology and Microtechnique.** A study of the microscopic anatomy of vertebrate tissues, with illustrations of basic tissue similarities and specialization in relation to function. The laboratory work includes the preparation of slides utilizing routine histological and histochemical techniques. 4 credits.

**306. Microbiology.** A study of the morphology, physiology, and biochemistry of representative microorganisms. Prerequisite: three semesters of chemistry or permission. 4 credits.

**307. Plant Physiology.** A study of the functioning of plants, with emphasis on vascular plants. Prerequisite: three semesters of chemistry or permission. 4 credits.

**318. Fundamentals of Ecology.** An examination of the basic concepts of ecology with extensive laboratory work and field experiences in freshwater, marine, and terrestrial ecosystems. Prerequisites: BI 112 or permission. 4 credits.

**322. Animal Physiology.** A study of the principles of vertebrate body function, with emphasis on the mechanisms by which cells and organs perform their functions and the interactions of the various organs in maintaining total body function. Prerequisites: BI 101 or 112 and one semester of chemistry, or permission. 4 credits.

**391–398. Special Topics.** 1–6 credits.

**400. Internship.** Provides on-site research and study opportunities in medical research, veterinary medicine and applied ecology (conservation, forestry, and water quality control). Prerequisite: permission. 1–4 credits per semester.

**401. Cell Physiology.** A study of the functioning of cells, including energetics, mechanisms and control of cell transport, metabolism, irritability, biological rhythms and photophysiology. Prerequisite: three semesters of chemistry or permission. 4 credits.

**402. Invertebrate Zoology.** A study of most of the invertebrate phyla, concentrating on movement, metabolism, information and control, reproduction and association between animals. 4 credits.

**409. Quantitative Ecology.** An intensive study of ecological processes emphasizing the quantitative aspects of ecology at the population and community levels. Prerequisite: permission of the instructor. 4 credits.

**491 – 498. Special Topics.** 1 – 6 credits.

**499. Seminar.** Each senior student is required to do independent library research on an assigned topic and to make an oral presentation to the biology faculty and students. This course may be repeated. 1 or 2 credits.

**500. Independent Study.** Prerequisite: Permission. 1 – 9 credits per semester.

## Chemistry

The aims of the Department of Chemistry are to provide its majors with rigorous training in the principles and applications of modern chemistry. The department offers two degrees, the B.S. with a major in chemistry and the B.S. in Chemistry which partially meets the requirements of the American Chemical Society. Both degree programs offer the necessary preparation for industry, graduate study or professional schools of medicine, dentistry, optometry, osteopathic medicine, or podiatry. Courses are designed to present the interaction of theoretical and experimental chemistry. In all laboratory courses emphasis is given to the use of instrumentation, including electronics. An independent study course is required of all chemistry majors.

**DEGREES:** B.S. degree with a major in chemistry. B.S. in Chemistry degree (partial fulfillment of American Chemical Society certification).

**MAJOR:** Students must take 111, 112, 113, 114, 213, 214, 215, 216, 222, 311, 312, 314, 316, 319, 321, 322, and 323; MA 161, 162; PHY 111, 112; total of 47 – 49 credits.

B.S. in Chemistry candidates must take 111, 112, 113, 114, 213, 214, 215, 216, 222, 311, 312, 314, 316, 319, 321, 322, 323, 411, and 6 credits from the following 421, 422, 491–498, and 4 credits of 500; MA 161, 162; PHY 111, 112; total of 60–62 credits.

## Courses in Chemistry

**100. Introduction to Chemistry.** An introduction to the basic principles of chemistry including mathematical tools, atomic structure, reactions, stoichiometry, bonding, and aqueous systems. Laboratory experience included. 4 credits.

**111, 112. Principles of Chemistry I, II.** A systematic study of the fundamental principles and concepts of chemistry. 3 credits per semester.

**113, 114. Introductory Laboratory I, II.** Laboratory courses to accompany 111 and 112 respectively. Prerequisite or corequisite: 111 and 112. 1 credit per semester.

**191–198. Special Topics.** 1–6 credits.

**213, 214. Organic Chemistry I, II.** An introduction to the structure, nomenclature, and properties of the major classes of organic compounds, with emphasis on the principles and reaction mechanisms describing their behavior. Prerequisite: 112 and 114. 3 credits per semester.

**215, 216. Organic Laboratory I, II.** Investigations of methods of synthesis and analysis of organic compounds including some physical organic studies. Prerequisite: CH 213. Corequisite: CH 214 or 216. 1 credit for 215, 1–2 credits for 216.

**222. Introductory Inorganic Chemistry.** The application of theoretical principles to the understanding of the descriptive chemistry of the elements. Prerequisite: CH 112 and 114. 3 credits.

**291–298. Special Topics.** 1–6 credits.

**311, 312. Physical Chemistry I, II.** A study of the physical theories of matter and their applications to systems of variable composition. Prerequisites: CH 214 or 216, MA 162 and PHY 112. 3 credits per semester.

**314. Instrumental Analysis.** An examination of instrumental analytical methods, including spectrophotometry, electroanalysis, coulometry, and polarography. Prerequisites: CH 311 and 319. Corequisite: CH 312. 3 credits.

**316. Instrumental Analysis Laboratory.** The use of instrumental tech-

niques for investigating chemical systems. Prerequisites: CH 214 and 216. Corequisites: CH 311, 312. 1 credit.

**319. Chemical Equilibria.** A rigorous mathematical description of the role of a chemical equilibrium in chemical systems emphasizing reactions involving ionic substances and using modern analytical methods. Prerequisites: CH 214 and 216. 4 credits.

**321, 322. Physical Laboratory I, II.** Physical-chemical investigations of chemical systems. Corequisite: CH 311 or 312. 1 credit per semester.

**323. Chemical Equilibria Laboratory.** A laboratory study of the application of equilibrium concepts to chemical systems. Corequisite: CH 319. 1 credit.

**391–398. Special Topics.** 1–6 credits.

**400. Internship.** Supervised chemistry laboratory experience in an industry, government agency, or hospital. Prerequisites: permission of chairman of department. 1–6 credits.

**411. Advanced Inorganic Chemistry.** A study of bonding theories, molecular structure, spectroscopy, and reaction mechanisms with special emphasis on transition metal complexes. Prerequisite: CH 312. 3 credits per semester.

**421, 422. Biochemistry I, II.** A course in the physical and organic aspects of living systems. Prerequisites: CH 214, 216, and 312 or permission. 3 credits per semester.

**430. Biochemistry Laboratory.** Investigations of the properties of proteins, nucleic acids, carbohydrates, and lipids. Prerequisites: CH 214 and 216. 1 credit.

**480. Biochemistry Seminar.** Readings, discussions, and reports on special topics in biochemistry. 1 credit.

**491–498. Special Topics.** One or more of the following courses will be offered each semester: analytical, industrial chemistry, kinetics, organic synthesis, physical organic, polymers, or quantum mechanics. However, other options are available. Prerequisite: CH 312, 319 or permission. 1–6 credits.

**500. Independent Study.** Intensive library and laboratory study of special interest to advanced students in the major areas of chemistry. For students preparing for secondary school teaching, the emphasis is placed on methods of teaching chemistry. Prerequisites: CH 319, 312, and the consent of the chairman of the department. 2 or 3 credits per semester. (Maximum of 9 for students in honors program).

# **Education**

## **Elementary Education**

The teacher preparation program builds upon a strong foundation in the liberal arts and includes intensive training in teaching all school subjects. The field-centered component in the program provides the elementary education major with extensive and carefully sequenced opportunities to work with teachers and children in a variety of school settings. During the first three years students spend time off campus making observations, tutoring, and providing small-group instruction. Seniors spend a full semester in full-time student teaching. Coursework allows sophomores, juniors and seniors the opportunity to work with nursery school children and/or with exceptional children in selected locations.

**DEGREE:** B.S. degree with a major in elementary education.

**MAJOR:** Elementary education majors must take: ED 110; EE 220, 250, 270, 332, 341, 342, 344, 361, 362, 440, 499; AR 401; GO 111; one of the following: HI 125, 126; MA 100 or equivalent; PSY 100, 220, 321, for a total of 66 hours.

## **Secondary Education**

There is no separate major for those interested in secondary education. Interested students major in a subject area and also enroll for courses in the Education Department. This program is designed to meet the requirements for teacher certification in Pennsylvania and many other states. Programs that lead to certification include biology, chemistry, English, French, German, Spanish, mathematics, physics, and social studies.

**DEGREE:** B.A. or B.S. degree in the chosen major.

**Secondary Teacher Certification:** Candidates must complete 21 credits in professional education courses and the approved program in the chosen major. ED 110 should be taken in the sophomore year and ED 420 in the junior year. ED 430 and 440 comprise the student teaching semester of the senior or postgraduate year. To qualify for student teaching, the student must have completed ED 110 and 420, the courses required for the major, and must have a grade point average of 2.0 plus permission of his advisor and the director of secondary student teaching. Certification encompasses grades 7 through 12.

## Courses in Elementary Education

**220. Music in the Elementary School.** Fundamentals of music instruction, including a survey of approaches to developing conceptual learning; movement; playing classroom instruments; introduction of Orff and Kodaly techniques; creative applications; guided listening; and the child voice. 3 credits.

**250. Mathematics for the Elementary Grades.** An introduction to fundamental concepts and processes in mathematics with emphasis on their application in the elementary school. 3 credits.

**260. Principles and Practices in Early Childhood Education.** An introduction to contemporary research, theories, programs, curricula, methods, and materials in early childhood education, nursery school through grade 2. Includes required field experience in a local setting. 3 credits.

**270. Children's Literature.** A study of literature for children from infants through grade 8, including extensive classroom examination of books, poetry, storytelling, and audiovisual resources in children's literature. 3 credits.

**280. Field Practicum in the Elementary School.** Supervised field experiences in appropriate school settings. Prerequisite: Permission. 1 – 3 credits per semester.

**291 – 298. Special Topics.** 1 – 6 credits.

**332. The Physical Sciences in the Elementary School.** A study of basic concepts in biology, chemistry, physics, and geography. Innovative curricula and methodology emphasize the experiential nature of science in the elementary classroom. Prerequisites: EE 250 and one semester of a laboratory science. 3 credits.

**341/342. Teaching of Reading I, II.** The fundamentals of teaching children to read, from the readiness programs of early childhood education to the more comprehensive techniques required to teach reading in all subject areas of the curricula in elementary and middle schools. Effective reading programs, methods, and materials are examined first hand. Attention is given to the classroom teacher's diagnosis of reading difficulties with an eye to preventive and prescriptive teaching. Includes during each semester one hour per week of tutoring of selected elementary school students. Prerequisite: EE 270. 3 credits per semester.

**344. Health and Safety Education.** A study of basic health and safety practices and procedures as applied to the elementary school, including a

program of physical education for elementary school children, an American Red Cross-approved program of first aid, and an evaluation of sources and use of materials. Prerequisites: ED 110; PSY 220. 3 credits.

**361. Language Arts in the Elementary School.** The content, methods and materials for teaching oral and written language beginning with early childhood: listening, speaking, creative and practical writing, as well as the related skills of creative dramatics, handwriting, grammar and usage. The course is designed to assist teachers in helping children to communicate effectively and responsibly in a creative manner. 3 credits.

**362. Social Studies in the Elementary School.** An examination of the content, methods and role of social studies in the elementary school, beginning with early childhood. The curriculum is examined from two vantage points: the daily lives of children as they relate to developing values and attitudes, and the planned study of people as they live and have lived in our world. The development of a teaching unit and the examination of learning resources contribute to a sound instructional program. 3 credits.

**391 – 398. Special Topics.** 1 – 6 credits.

**440. Student Teaching.** Each student spends an entire semester in a classroom of an area public school under the supervision of a carefully selected cooperating teacher. Open to seniors only. A cumulative grade point average of 2.0 during the first six semesters in college is required. Prerequisites: ED 110; PSY 220; EE 250, 270, 332, 341, 342, 361, 362, and permission. 3 – 12 credits.

**491 – 498. Special Topics.** 1 – 6 credits.

**499. Senior Seminar.** Special topics related to pertinent problems in student teaching or to further professional growth in the profession are researched. 3 credits.

**500. Independent Study.** 1 – 3 credits per semester.

## Courses in Education

**110. Foundations of Education.** A study of the social, historical and philosophical foundations of American education correlated with a survey of the principles and theories of influential educators. 3 credits.

**191 – 198. Special Topics.** 1 – 6 credits.

**280. Field Practicum in the Secondary School.** Supervised field experiences in appropriate school settings. Designed to offer practical experiences

for prospective secondary teachers or students planning an educational ministry. Prerequisites: Permission. 1 – 3 credits per semester.

**291 – 298. Special Topics.** 1 – 6 credits.

**346. Educational Technology and Instructional Media.** A study of the preparation and use of instructional technology, media, and equipment. 3 credits.

**391 – 398. Special Topics.** 1 – 6 credits.

**442. The Education of the Exceptional Child.** An introduction to current research and practices concerning exceptionalities in children, including the handicapped and gifted. The course includes attention to policies, legislation, programs, methods and materials. Various resource personnel are invited to address pertinent issues. The course includes a minimum of one hour per week field experience in local programs designed to meet the needs of exceptional children. Prerequisites: ED 110, PSY 100. 3 credits.

**491 – 498. Special Topics.** 1 – 6 credits.

## **Courses in Secondary Education**

**420. Human Growth and Development.** A survey of psychology and learning and their application to secondary school teaching. 3 credits.

**430. Practicum and Methods.** An examination of the basic principles and methods of secondary classroom instruction. Emphasis is placed on reading skills. Prerequisite: ED 110, 420. 3 credits.

**431. Social Studies in Secondary Education.** A study of curricular patterns and development for areas within the social studies. Students will prepare instructional objectives, select and organize subject matter, investigate a variety of learning activities and strategies for developing inquiry skills, decision-making ability and values. 1 – 2 credits.

**440. Student Teaching.** Each student spends one semester in a classroom of an area school under the supervision of a carefully selected cooperating teacher. Open to seniors only. Requirements are: (1) a grade point average of at least 2.0 in the major field; (2) completion of methods in the major field; and (3) approval of the major advisor and the director of secondary student teaching. Prerequisites: ED 110, 420, 430 (ED 430 may be taken concurrently with ED 440). 3 – 12 credits.

# Geography

Courses in geography are offered to acquaint students with the physical and cultural aspects of the world in which they live. The courses are recommended for all students who wish to broaden their understanding of the world.

## Courses in Geography

**111. Physical Geography.** A survey of the physical aspects of the earth, its place in the solar system, earth movements, waters, landforms, climate, soil types, weather, and processes that form and change the earth's surface. 3 credits.

**112. Regional Cultural Geography.** A survey of the various geographic regions of the world and their cultural features. The natural resources and economy of each area are studied as well as such factors as religion, social customs, food supply, populations, and ecology. 3 credits.

## Reading and Study Skills

Occasionally, an incoming student may have had insufficient preparation for study and concentration at the college level. It is for this student that the reading and study skills course is intended.

**110. Reading and Study Skills.** A study of techniques intended to improve those skills important to reading and to study at the college level. Tests assigned for students' own classes are utilized. Students who have SAT verbal scores below 450 are strongly advised to take the course. 1 credit.

# English

The major in English introduces students to the humanistic study of literature or to the humanistic practice of writing. While English majors may choose to concentrate either in literature or communications, the basis for both concentrations is the systematic and analytic study of literature. All majors also learn clear, concise, and coherent expression as well as effective collection, organization, and presentation of material. Such study prepares the

student for more advanced work in many fields. Graduates of the Department of English are prepared for work in such fields as journalism, teaching, editing, public relations, publishing, advertising, government, industry, the ministry, and law.

**DEGREE:** B.A. with a major in English.

**Major core requirements:** All students must take EN 200, EN 331, EN 499, one major authors course, and three courses from EN 220, EN 225, EN 226, EN 227, EN 228.

**Literature Concentration:** Students must take two additional survey courses and three additional major authors or special topics courses. Students planning to teach secondary school will also take EN 218 and EN 334.

**Communications Concentration:** Beyond the core courses the student will take EN 213, and three additional courses in communications or in related work, such as photography or electronic studio. The student will also take at least one internship.

## Courses in English

**111/112. English Composition, I, II.** Both semesters help the student find her or his own voice within the demands and expectations of public expression. These courses emphasize the development of clear, organized, and rhetorically effective prose. 3 credits per semester.

**191 – 198. Special Topics.** 1 – 6 credits.

**200. Introduction to Literary Studies.** An introduction to the basic methodology, tools, terminology, and concepts of the study of literature. 3 credits.

**210. Management Communications.** The development of reading, writing, and listening skills for management in the business community. Prerequisites: EN 111, 112 or permission. 3 credits.

**213. Journalistic Writing.** The development of the basic skills of journalistic writing. 3 credits.

**214. Media Writing.** The application of basic journalistic skills to magazines, public relations, publicity, radio, and television. 3 credits.

**216. Technical Writing.** The development of writing skills within the context of technical and scientific writing, with emphasis on style and forms. 3 credits.

**218. Oral Communications.** Introduction to oral communication, with emphasis on effective public speaking. 3 credits.

**219. Creative Writing.** The making of fiction or poetry (in alternate offerings) in a workshop setting. 3 credits.

**220. Masters of American Literature.** A study of selected major authors representing various periods of American Literature. 3 credits.

**225/226. Survey of English Literature I, II.** An examination of English literature from the beginnings to about 1800 (I) and from there to the present (II).

**227/228. World Literature I, II.** An examination of major themes in Western thought through major literary works from the ancient Greeks to the moderns. 3 credits per semester.

**291–298. Special Topics.** 1–6 credits.

**331. History of the English Language.** An examination of English sounds, grammatical forms, and vocabulary, as well as a brief survey of standards of correctness and current usage. 3 credits.

**334. Modern Grammars.** A review of traditional grammar and a survey of recent grammatical concepts resulting from developments in structural linguistics. Prerequisite: EN 331. 3 credits.

**335. The Novel.** A study of the development of the English novel from Richardson to Joyce. 3 credits.

**336. Theatre Workshop.** A study of the elements of theatre as oriented toward stage presentation, with classroom practice in production of scenes and whole plays. 3 credits.

**340–349. Major Authors.** An examination of works of individual important authors in American, English and World literature. 3 credits each.

**391–398. Special Topics.** 1–6 credits.

**400. Internship.** Supervised field experience in communications work. 1–15 semester hours credit.

**491–498. Special Topics.** 1–6 credits.

**499. Seminar.** This capstone course for English majors varies in content. 3 credits.

**500. Independent Study.** For the student who desires to engage in a project of independent work, whether enrolled in the departmental honors program or not. Prerequisite: Permission. 1–3 credits per semester. (maximum of 9)

## Foreign Languages

The study of a foreign language has three aims: to develop fluency in the basic communication skills, to provide an understanding of the cultural heritage of the people who use the language, and to understand language as the fundamental medium in which mankind thinks and interacts.

The Department of Foreign Languages prepares the language major for a career in a variety of fields: teaching, diplomatic and governmental service, foreign trade, business and social service. For many of these careers the study of a foreign language is often combined with majors in other disciplines.

The Department encourages students to avail themselves of the College's opportunities for foreign travel and study, including the International Student Exchange Program.

**DEGREE:** For the student who majors in foreign language, French, German or Spanish, the B.A. is offered.

**MAJOR:** A student may elect to major in one language or in foreign languages. A major in one language requires FL250 and 24 hours above the intermediate level in the language studied. A major in foreign languages has the same requirements plus 12 hours above the intermediate level in a second language. For prospective teachers, FL 440 is required.

## Courses in Foreign Language

**250. Introduction to Linguistics.** An introductory study of language as a communication system, designed for majors and non-majors and taught in English. 3 credits.

**260. Approaches to Culture.** A survey of contemporary life in French, German and Spanish speaking countries. Topics may include customs, values, social structures, geography, and current issues. Taught in English. 3 credits.

**440. Methods of Teaching Foreign Language.** A comprehensive study of modern teaching methods, with emphasis on basic skills for secondary school level instruction. Prerequisite: FR 316, or SP 316, or GER 316. 2 credits.

## Courses in French

**101, 102. Elementary French I, II.** Introductory courses in French. 3 credits per semester.

**191 – 198. Special Topics.** 1 – 6 credits

**201, 202. Intermediate Conversational French I, II.** A review of French grammar, emphasizing practice in conversation, comprehension, reading, and writing. Prerequisite: FR 102 or equivalent. 3 credits.

**291 – 298. Special Topics.** 1 – 6 credits.

**311. Introduction to French Literature.** Practice in the careful reading of literary texts and in the basic language skills. Prerequisite: FR 202 or equivalent. 3 credits.

**312. Contemporary Literature.** Readings in the works of living French authors. Attention both to individual style and the relationship of the writer to current problems. Prerequisite: FR 202 or equivalent. 3 credits.

**315 French Culture.** A study of modern France. Special attention is paid to those qualities, characteristics, and traditions which are uniquely French. Prerequisite: FR 202 or equivalent. 3 credits.

**316. Advanced Conversation and Composition.** Intensive practice in spoken and written French. An advanced grammatical and stylistic level with emphasis on the use of language in practical situations. Prerequisite: FR 202 or equivalent. 3 credits.

**320. Business French.** An introduction to the language of business and business practices. Prerequisite: FR 202 or equivalent. 3 credits.

**391 – 398. Special Topics.** 1 – 6 credits.

**400. Internship.** Field experience in a business, governmental or social organization. 1 – 15 credits.

**410. French Literature of the Middle Ages and Renaissance.** A study of medieval French literature to 1600. Prerequisite: FR 311 or 316 or permission. 3 credits.

**420. French Literature of the Age of Louis XIV.** A study of major French authors of this era, the apogee of French civilization, including Corneille, Racine, Molière, La Fontaine, and Pascal. Prerequisite: FR 311 or FR 316 or permission. 3 credits.

**430. French Literature of the Enlightenment.** A study of the main literary and philosophical currents of the Eighteenth Century. Emphasis will be placed on the works of Montesquieu, Diderot, Voltaire, and Rousseau. Prerequisite: FR 311 or FR 316 or permission. 3 credits.

**440. The Modern French Novel.** A study of the French novel. Limited to the study of novels of the Nineteenth and Twentieth Centuries. Prerequisite: FR 311 or FR 316 or permission. 3 credits.

**450. Modern Theatre and Poetry of France.** A study of theatre and poetry of the Nineteenth and Twentieth Centuries. Prerequisite: FR 311 or FR 316 or permission. 3 credits.

**491-498 Special Topics.** 1-6 credits.

**500. Independent Study.** Prerequisite: FR 316 or equivalent. 1-6 credits.

## Courses in German

**100. Elementary German.** Self-paced. A beginning course for the student who wishes to proceed at his own pace. A student may earn from 2 to 6 credits, depending on the amount of work completed. The student does not attend class but uses specially developed materials and may call on the instructor for aid. With the approval of the instructor, a student may enroll in this class for more than one semester until a total of 6 credits has been earned.

**101, 102. Elementary German I, II.** Introductory courses in German. 3 credits per semester.

**191-198. Special Topics.** 1-6 credits.

**201, 202. Intermediate Conversational German I, II.** A review of German grammar, with practice in conversation, comprehension, reading and writing. Prerequisite: GR 102 or equivalent. 3 credits per semester.

**210. Scientific German.** An introduction to scientific writing in German. The vocabulary and syntax of scientific writing with emphasis on the accurate translation of texts. Taught in English. Prerequisite: GR 102. 3 credits.

**291-298. Special Topics.** 1-6 credits.

**311. Introduction to German Literature.** Practice in the careful reading of literary texts and in the four basic language skills. Prerequisite: GR 202 or equivalent. 3 credits.

**312. Contemporary Literature.** Readings in the works of living German authors. Attention both to individual style and the relationship of the writer to current problems. Prerequisite: GR 202 or equivalent. 3 credits.

**315. German Culture.** Study of the major features of contemporary German life. Prerequisite: GR 202 or equivalent. 3 credits.

**316. Advanced Conversation and Composition.** Intensive practice in spoken and written German on an advanced grammatical and stylistic level,

with emphasis on the use of the language in practical situations. Prerequisite: GR 202 or equivalent. 3 credits.

**320. Business German.** An introduction to the language of business and business practices. Prerequisite: GR 202 or equivalent. 3 credits.

**391–398. Special Topics.** 1–6 credits.

**400. Internship.** Field experience in a business, governmental or social organization. 1–15 credits.

**410. The German Heritage.** A survey of German culture and civilization including history, music, art, literature, and philosophy. Prerequisite: GR 311 or 316 or permission. 3 credits.

**420. The Age of Heroes.** An exploration of the idea held by writers from the medieval through the baroque periods that an exemplary individual is the proper measure and focus of human aspiration and achievement. Prerequisite: GR 311 or 316 or permission. 3 credits.

**430. Goethe and Schiller.** A detailed study of these literary figures, with an examination of their society and artistic achievements. Prerequisite: GR 311 or 316 or permission. 3 credits.

**440. The German Novelle.** The novelle as a literary genre, as well as its development through the Nineteenth and early Twentieth Centuries. Prerequisite: GR 311 or 316 or permission. 3 credits.

**450. German Literature of the Twentieth Century.** A study of representative works by leading authors of the century and current literary movements. Prerequisite: GR 311 or 316 or permission. 3 credits.

**491–498. Special Topics.** 1–6 credits.

**500. Independent study.** 1–6 credits.

## Courses in Greek.

**101, 102. Elementary Greek I, II.** Introductory study in the basics of ancient Greek. 3 credits per semester.

**201, 202. Intermediate Greek I, II.** Readings from Greek literature. First semester includes readings from the New Testament Gospels. Second semester includes readings from Xenophon's *Anabasis*. Prerequisite: GK 102. 3 credits per semester.

**321. Readings from the Book of Acts.** Prerequisite: GK 202. 3 credits.

**322. Readings in Hellenistic Greek.** Prerequisite: GK 202. 3 credits.

**431. Readings from the Epistles of Paul.** Prerequisite: GK 202. 3 credits.

**432. Readings from the Greek Philosophers.** Prerequisite: GK 202. 3 credits.

**491–498. Special Topics.** 1–6 credits.

## Courses in Latin

**101. Elementary Latin I.** Basic grammar and syntax, including some readings of ancient writers. 3 credits.

**102. Elementary Latin II.** A review of grammar and translation. Translation of English into Latin and reading of Latin prose selections, including Cicero. Prerequisite: LT 101 or equivalent. 3 credits.

**201. Intermediate Latin I.** A review of grammar and selected readings. Readings from such prose works as Cicero's essays. Prerequisite: LT 102 or equivalent. 3 credits.

**202. Intermediate Latin II.** Selected readings. A reading of passages selected from the writings of Virgil and Ovid. Prerequisite: LT 201 or equivalent. 3 credits.

**491–498. Special Topics.** 1–6 credits.

## Courses in Spanish

**101, 102. Elementary Spanish I, II.** Introductory courses in Spanish. 3 credits.

**191–198. Special topics.** 1–6 credits.

**201, 202. Intermediate Conversational Spanish I, II.** A review of Spanish grammar, and practice in conversation, comprehension, reading and writing. Prerequisite: SP 102 or equivalent. 3 credits.

**291–298. Special Topics.** 1–6 credits.

**311. Introduction to Spanish Literature.** Practice in the careful reading of literary texts and in the four basic language skills. Prerequisite: SP 202 or equivalent. 3 credits.

**312. Contemporary Literature.** Readings in the works of living Spanish authors. Attention both to individual style and the relationship of the writer to current problems. Prerequisite: SP 202 or equivalent. 3 credits.

**315. Hispanic Culture.** A study of Hispanic culture and language, with emphasis on the culture as found in modern Spain and its reflection in America. Prerequisite: SP 202 or equivalent. 3 credits.

**316. Advanced Conversation and Composition.** Intensive practice in spoken and written Spanish on an advanced grammatical and stylistic level, with emphasis on the use of language in practical situations. Prerequisite: SP 202 or equivalent. 3 credits.

**320. Business Spanish.** An introduction to the language of business and business practices. Prerequisite: SP 202 or equivalent. 3 credits.

**391–398. Special Topics.** 1–6 credits.

**400. Internship.** Field experience in a business, governmental or social organization. 1–15 credits.

**410. Spanish Literature of the Middle Ages and Renaissance.** A study of the outstanding works of the period. Prerequisite: SP 311 or 316 or permission. 3 credits.

**420. Spanish Literature of the Golden Age.** A study of the major works of the period. Prerequisite: SP 311 or 316 or permission. 3 credits.

**430. Spanish Literature of the Eighteenth and Nineteenth Centuries.** Readings from the Enlightenment in Spain, and an examination of the major works of romanticism and realism. Prerequisite: SP 311 or 316 or permission. 3 credits.

**440. Spanish Literature of the Twentieth Century.** A study of the literary movements of this century, starting with the Generation '98 and modernism. Prerequisite: SP 311 or 316 or permission. 3 credits.

**450. Spanish-American Literature of the Twentieth Century.** A study of the important writers of the century, with emphasis on recent developments in the literature of Spanish-America. Prerequisite: SP 311 or 316 or permission. 3 credits.

**491–498. Special Topics.** 1–6 credits.

**500. Independent Study.** 1–6 credits.

## General Studies

### Bachelors Degree

The bachelors degree program in General Studies is intended for students who desire the widest possible choice in selecting a program of study. Students may choose their courses freely from among the arts, humanities, sciences, and social sciences.

**DEGREE:** B.A. or B.S. degree with a major in General Studies.

**REQUIREMENTS:** 42–45 credits of general requirements; 75–78 credits of free electives; 24 or more credits selected from courses at the 300 level or above; and a cumulative grade point average of 2.00.

## **Associate Degree**

The associate degree program in general studies is intended for students who do not wish to concentrate in a single area. In this program they may select their courses freely from among the arts, humanities, sciences, and social sciences.

**DEGREE:** Associate of Arts or Associate of Science with a major in General Studies.

**REQUIREMENTS:** 24 credits from the general requirements (with at least one course from each area listed under the General Requirements Program); 36 credits of free electives; and a cumulative grade point average of 2.00.

## **Health Care Professionals, Administration**

The major in administration for health care professionals is designed for people in the health care fields who possess associate degrees or professional certification. The program combines studies in the liberal arts and management, plus business practices common to the health care industry.

**DEGREE:** B.S. degree with a major in Administration for Health Care Personnel.

**MAJOR:** AC 151, 152, CS 147, EC 110, 120, EN 111, 210, GE 140, MA 170, MG 330, 350, plus 9–15 approved credits in psychology or sociology and a concentration requirement.

**Management concentration:** MG 497 and 12 credits chosen from EC 201, MG 340, 361, 371, 372, 460 or 485.

**Human resources concentration:** MG 420, 425, PSY 337, 346, plus one course in psychology or sociology above the 300 level.

## **Health Professions**

Lebanon Valley College offers pre-professional training in the medical (medicine, osteopathy, optometry, podiatry, pharmacy, chiropractic, and

dentistry) and veterinary fields. Students interested in one of these careers usually follow a science curriculum with a major in biochemistry, biology or chemistry.

In addition to the basic natural sciences suited to advanced professional study, the student who is interested in veterinary medicine may participate in a cooperative program between the College and local veterinarians, specializing in both small and large animal medicine. Students not only receive credit for the work, but also gain valuable experience in the field.

For those students interested in podiatry, Lebanon Valley College and the Pennsylvania College of Podiatric Medicine have established an accelerated curriculum consisting of a minimum of 90 undergraduate semester hours and four years of podiatric medical education. Following three years of study at Lebanon Valley College a student may be recommended for further study at the Pennsylvania College of Podiatric Medicine. Lebanon Valley College then awards the baccalaureate degree, with a major in biochemistry, biology or chemistry, to those students who complete successfully one year of basic science education at the Pennsylvania College of Podiatric Medicine.

A health professions committee coordinates the various plans of study in addition to offering advice and assistance to those persons interested in health professions careers.

Lebanon Valley College graduates have been admitted to some of the nation's finest schools including Johns Hopkins University Medical School, The University of Pennsylvania, The University of Pittsburgh, Jefferson Medical School, The Milton S. Hershey Medical Center, Temple University, The University of Maryland, The Philadelphia College of Osteopathic Medicine, The Pennsylvania College of Podiatric Medicine and the Pennsylvania College of Optometry.

## **History and Political Science**

The Department of History and Political Science is a dual department, but each curriculum is distinct and taught separately. By examination of human behavior of the past, the study of history can help human beings to a better understanding of themselves and others. Political science deals with the political behavior of individuals, groups, institutions, and nations.

The Department encourages supervised academic and field experience in a variety of internships in related work. Interns earn between 1 and 15 credit hours.

**DEGREES:** B.A. degree with a major in history or political science.

**MAJORS:** (History) HI 125, 126, 213, 499, and 500; one course from among HI 225, 227, 229, 241 – 249, and 310; two courses from among HI 201 – 209, 331 – 339, and 341 – 349; three elective courses in history and one in political science, for a total of 36 hours. (Political Science) PS 111/112, 210, 220, 230, 240, and 310; five courses from among PS 312, 315, 316, 320, 330, 350, 400, 415, and 500; and HI 125 or 126, for a total of 39 hours.

## **Courses in History**

**125/126. Survey of United States History I, II.** The first semester covers the development of America to 1865, the second semester from 1865 to the present. 3 credits per semester.

**191 – 198. Special Topics.** 1 – 6 credits.

**201 – 209. Epochs of the Past.** In successive years this course will cover Greek and Roman History (the origins, structures, and values of Greek and Roman societies from 1200 B.C. to 500 A.D.); The Middle Ages (the emergence of European society from 500 to 1300 A.D., emphasizing social and intellectual life); Early Modern Europe (the emergence of a secular society of science, liberty, and national states). 3 credits.

**213. History and Historians.** An investigation of the lives and ideas of the great historians. 3 credits.

**225. The Colonies and the American Revolution.** A study of how Europeans seized the New World, transformed themselves into Americans, and fought to build a republic in a world of monarchy. 3 credits.

**227. Civil War and Reconstruction.** A study of how sectional divisions plunged Americans into a bloody war and a bitter postwar effort to reshape Southern society. 3 credits.

**229. America in the Atomic Age.** The impact of world war, cold war, social change, and international responsibilities upon America in the modern age. 3 credits.

**241 – 249. American Regional Studies.** The history of one geographic region from colonial days to the present. In successive years the course will cover Pennsylvania history, the frontier, and the South. 3 credits.

**291 – 298. Special Topics.** 1 – 6 credits.

**310. American Business History.** A survey of the lives and ideas of business leaders, the development of the American economy, and the rela-

tionship between business, society, and government, from colonial days to the Twentieth Century. 3 credits.

**331 – 339. European Studies.** Thematic treatments of European history, focusing on one topic per semester. 3 credits per semester.

**341 – 349. Regional Studies.** An in-depth study of the histories of various important regions of the world. In successive years this course will cover Russia and the Soviet Union, and the Far East. 3 credits per semester.

**391 – 398. Special Topics.** 1 – 6 credits.

**400. Internship.** Supervised academic and field experience. Participants will be selected by members of the department staff. 3 – 6 credits per semester; maximum of 15 credits.

**491 – 498. Special Topics.** 1 – 6 credits.

**499. Seminar.** Readings, discussions, and evaluations of significant works of history. Open to history majors; open to others by permission. 3 credits.

**500. Independent Study.** Permission required. 1 – 3 credits per semester; maximum of 9 credits.

## Courses in Political Science

**110. American Political Culture.** A study of the ideas and values that shape the structure and institutions of the American political system. 3 credits.

**111/112. American National Government I, II.** In the first semester the following are covered: the nature of American democracy, constitutional foundations of American government, the federal system, civil rights and liberties, political behavior, political parties, and campaigns and elections. The following are studied in the second semester: the structures and functions of American government (Presidency, Congress, courts, and bureaucracy), and the foreign and domestic policy-making process. 3 credits per semester.

**191 – 198. Special Topics.** 1 – 6 credits.

**210. Comparative Government.** A comparative study of important political systems of the world, including an introduction to the basic methodologies. PS 111/112 strongly recommended as preparation. 3 credits.

**216. Quantitative Methods.** See PSY 216. 3 credits.

**220. Political Theory.** A survey of the different philosophies and theories of government, ancient and modern, but especially since the Sixteenth Century. Prerequisite: PS 111/112. 3 credits.

**230. International Politics.** The origin, forms, dynamics, and prospects of the international political pattern, with emphasis on current developments and changing concepts in world politics. 3 credits.

**240. Public Administration.** An examination of the structures through which governments try to carry out their policies. The course covers both the practical matters of accountability and efficiency, and the analytical concerns of organizational theory and bureaucratic culture. 3 credits.

**291 – 298. Special Topics.** 1 – 6 credits.

**310. Scope and Methods of Political Science.** A course in the conduct and interpretation of research in political science. Topics covered include formulation of a research problem, research design, techniques of scaling and measurement, data collection and analysis, and writing the research report. Prerequisite: permission; MA 170, elementary statistics, is strongly recommended. 3 credits.

**312. American Foreign Policy.** A survey of the external relations of the American government, emphasizing Twentieth Century developments. Subjects include diplomacy, military affairs, geographic and regional problems, trade and aid, technology and underdevelopment, alliances, nuclear problems, and opposing ideologies. PS 111/112 strongly recommended as preparation. 3 credits.

**315. American Constitutional Law I.** The development of American constitutional law from 1776 to 1947. Topics include judicial review, national supremacy, private property, contracts, commerce powers, equal rights, and civil liberties. Required of all pre-law students. 3 credits.

**316. American Constitutional Law II.** The development of American constitutional law from 1947 to the present. Emphasis is given to civil liberties, equal rights, and rights of the accused, with some treatment of presidential powers, the commerce clause, and the contract clause. Required of all pre-law students. 3 credits.

**320. Electoral Politics.** The dynamics of the electoral process, with emphasis on presidential and congressional elections, and including the role of parties, public opinion, and interest groups. 3 credits.

**330. State and Local Government.** This course covers the governmental institutions and political characteristics of state and local political systems, and the major inter-governmental problems in state and local relations with the federal government. 3 credits.

**350. Select Problems.** A course to give students a chance to explore in depth a topic of special interest. 3 credits.

**391 – 398. Special Topics.** 1 – 6 credits.

**400. Internship.** Supervised academic and field experience. Prerequisite: PS 111/112 and permission. 3 – 6 credits per semester; maximum of 15 credits.

**415. Foundations of American Law.** An historical survey of the Western legal tradition from classical times through the Eighteenth Century. The course examines conceptions of English common law and its relationship to the evolution of American law. Strongly recommended for pre-law students. Prerequisite: permission. 3 credits.

**491 – 498. Special Topics.** 1 – 6 credits.

**500. Independent Study.** Permission required. 1 – 3 credits per semester; maximum of 9.

## Hospitality Programs

The programs in food service administration, hotel administration, and travel administration are designed for people who wish to prepare for positions of responsibility in the hospitality industry. Each program provides students with the theoretical and practical knowledge necessary for promotion to supervisory-level positions. In addition, students have the opportunity to apply training and concepts learned in the classroom to work experience in actual industry settings. Each program can normally be completed in four semesters of full-time study.

### Food Service Administration

**DEGREE:** A.A.S. degree with a major in food service administration.

**MAJOR:** 30 credits of FS courses, including FS 100, 101, 102, 200, 203, 204, 205, and 207; AC 151; EN 111, 210; GE 120, 140; MA 100 or equivalent; MG 100, 371; PH 260; PSY 100.

### Courses in Food Service Administration

**100. Introduction to Foods and Nutrition.** A study of the basic food groups and the factors that affect nutrient content. The course surveys the biological basis of human digestion; preparation of food for optimum nutrition, flavor, and appearance; and the nutritional health of human beings as related to food and metabolism. 3 credits.

**101. Dining Service Procedures.** An introduction to the various aspects of dining room operation. The course covers the essentials of table service, the needs of patrons, the duties of staff personnel, and the responsibilities of supervisors. 3 credits.

**102. Food Sanitation and Safety.** A survey of federal, state, and local regulations governing food service. The course covers the identification of food-borne diseases and methods of prevention and control, as well as principles of health, hygiene, and safety related to food handling. Emphasis is on practical application. Satisfactory completion of the course should qualify the student for required certification by the NSF. 3 credits.

**191 – 198. Special Topics.** 1 – 6 credits.

**200. Internship.** 1 – 12 credits.

**203. Quantity Food Purchasing.** Principles of bid preparation, specification, purchasing, sanitation, and storage of commodities for food service installations. 3 credits.

**204. Supervision and Training.** Concepts and methods of employee supervision and development. The emphasis is on supervisory practice, personnel administration, law and labor relations, and concepts of organization as applied to the hospitality and travel industries. Subjects include interpersonal skills in communication and group interaction; motivation; incentive systems; performance evaluation; and the development, implementation, and evaluation of training programs. 3 credits.

**205. Food Service Planning, Layout and Equipment.** A survey of the principles involved in the layout, design, and selection of equipment for quantity food service installations. 3 credits.

**206. Executive Development.** The theory and practice of leadership as applied to the hospitality and travel industries. 3 credits.

**207. Advanced Food Production Management.** Principles and problems of organization and administration related to quality food service. The emphasis is on the practical application of management principles to meal service and special functions. Prerequisites: FS 100, 101, 102, 203, 204, 205 or permission. 3 credits.

**291 – 298. Special Topics.** 1 – 6 credits.

## **Hotel Administration**

DEGREE: A.A.S. degree with a major in Hotel Administration.

MAJOR: 30 credits of HA courses, including HA 100, 101, 102, 200, 203, 205

and 205; AC 151; EN 111, 210; GE 140; MA 100 or equivalent; MG 100, 371 + PH 260, plus 6 hours of electives in approved area.

## Courses in Hotel Administration

**100. Introduction to the Hospitality Industry.** The history, organization, problems, opportunities, and trends of the industry. The emphasis is on the operating departments of hotels, restaurants, and institutions, including basic functions, procedures, and the management of personnel and resources. 3 credits.

**101. Client Services.** Responsibilities of the front office staff, including sales and promotion, reservations and registration, financial control and accounting techniques, processing of mail and information, and emergency procedures. 3 credits.

**102. Food and Beverage Management.** The essential principles of planning, preparation, and service of food and beverage. Subjects addressed include standards of quality and grade, purchasing, yields, costing of materials and labor, sanitation, nutrition, safety, regulatory and legal aspects, and quality control. 3 credits.

**191 – 198. Special Topics.** 1 – 6 credits.

**200. Internship.** 1 – 12 credits.

**203. Facilities Management.** The management of facilities essential to the hospitality industry. Subjects included, among others, are maintenance, basic engineering systems and principles, work schedules, energy conservation, and cost control. 3 credits.

**204. Supervision and Training.** Concepts and methods of employee supervision and development. Emphasis is on supervisory practice, personnel administration, law and labor relations, and concepts of organization as applied to the hospitality and travel industries. Subjects include interpersonal skills in communication and group interaction; motivation and incentive systems; performance evaluation; and the development, implementation, and evaluation of training programs. 3 credits.

**205. Hospitality and Travel Marketing.** Marketing concepts and practices. Subjects include market analysis, marketing media, merchandising and promotion, incentives, group and individual sales, packaging, pricing, and relations with clients. 3 credits.

**206. Executive Development.** The theory and practice of leadership as applied to the hospitality and travel industries. 3 credits.

**291 – 298. Special Topics.** 1 – 6 credits.

## Travel Administration

DEGREE A.A.S. degree with a major in travel administration.

MAJOR: 24 credits of Travel Administration courses, including TA 100, 101, 102, 200, 204, and 205; AC 151; EN 111, 210; GE 140; 9 credits from among GE 120, Geo 112, FL 260, HI 125, RE 140, AR 203; MA 100 or equivalent; MG 371; PH 260; and 6 credits of a foreign language (6 credits in one language or 3 credits in each of two languages).

### Courses in Travel Administration

**100. Introduction to the Travel and Tourism Industry.** The history, organization, problems, opportunities, and trends of the industry. The emphasis is on the basic functions, procedures, and management of personnel and resources in travel agencies, convention and tourist bureaus, and ticketing operations. 3 credits.

**101. Ticketing and Reservations.** Fundamentals of preparing domestic and international reservations, computing fares, and issuing tickets. The course includes a study of relations with clients, handling and accounting of revenues, and an introduction to computerized operations. 3 credits.

**102. Tour Planning.** Fundamentals of assisting clients in planning domestic and foreign itineraries. The course includes terminology; booking transportation by air, sea, or land; booking accommodations; arranging surface travel and transfers; arranging and packaging independent and escorted tours. 3 credits.

**191 – 198. Special Topics.** 1 – 6 credits.

**200. Internships.** 1 – 12 credits.

**204. Supervision and Training.** Concepts and methods of employee supervision and development. The emphasis is on supervisory practice, personnel administration, law and labor relations, and concepts of organization as applied to the hospitality and travel industries. Subjects include interpersonal skills in communication and group interaction; motivation; incentive

systems; performance evaluation; and the development, implementation, and evaluation of training programs. 3 credits.

**205. Hospitality and Travel Marketing.** Marketing concepts and practices. Subjects include market analysis, marketing media, merchandising and promotion, incentives, group and individual sales, packaging, pricing, and relations with clients. 3 credits.

**206. Executive development.** The theory and practice of leadership as applied to the hospitality and travel industries. 3 credits.

**291–298. Special Topics.** 1–6 credits.

## International Business

The program in international business provides an opportunity to integrate the study of business with the knowledge of a foreign language and culture. It is designed to equip students with the background and skills necessary to work with foreign corporations within the United States and with American corporations abroad. While acquiring a strong liberal arts background, students who elect this major will receive training in accounting, management, economics and political science. They also will become familiar with a foreign culture and will acquire proficiency in French, German or Spanish. International business majors are encouraged to apply for internships in order to gain valuable field experience.

**DEGREE:** B.S. degree with a major in international business.

**MAJOR:** AC 151, 152; MG 330, 361, 376; EC 110, 120, 332; PS 210, 230; FR, GER, SP 315, 316; and two other courses in the selected foreign language above the intermediate level (201, 202), for a total of 42 hours.

## Management

The Department of Management offers programs of study designed to provide majors in accounting, management, and economics with a broad liberal education that will enable graduates to play a more active role in the changing world of ideas and actions, prepared with a sound and integrated knowledge of the essential principles and problems of accounting, management and economics.

Regardless of major, a set of core courses is required for all, to ensure that everyone will have a common framework of reference as well as common tools of analysis to pursue special interests within the particular major. Within the department, three advising concentrations are also offered: business information systems (computer applications in business), marketing, and human resource management. These courses are in addition to the major requirements.

**DEGREE:** B.S. degree with a major in accounting or management or economics.

**Department Core Requirements:** AC 151, 152; EC 110, 120, MG 222, 330, 485; EN 210; CS 147 or CS 170; MA 150 or 160 or 161 or 111; MA 170 or 270 or 372; PSY 100.

**Accounting:** core plus AC 251, 252, 353, 451, 455, MG 361, 371, 460, plus 3 additional credit hours in accounting.

**Management:** core plus MG 100, 340, 361, 460, 483.

**Economics:** core plus EC 201, 203, 312, plus 6 additional credit hours in Economics.

**Advising Concentrations:** (Business Information Systems) CS 147 or CS 170; CS 244, 345, plus 9 credits in CS courses at the 300/400 level. (Marketing) MG 341, 364, 366, 384, EC 201, SO 251. (Human Resource Management) MG 420, 415, HI 310, SO 110, and PSY 346 or SO 251.

## **Courses in Accounting**

**151, 152. Principles of Accounting I, II.** The fundamental principles and concepts of accounting involving business transactions, the accounting cycle, and classified financial statements including discussion of various topics relating to items on the balance sheet and income statement. AC 152 includes financial accounting as applied to partnerships and corporations. The course is also an introduction to managerial accounting topics. 3 credits per semester.

**191 – 198. Special Topics.** 1 – 6 credits.

**251. Intermediate Accounting I.** An advanced course in accounting principles, stressing the environment and the conceptual framework of financial accounting, statement presentation, revenue recognition, and valuation problems in accounting for assets. Prerequisite: AC 152. 3 credits.

**252. Intermediate Accounting II.** An analysis of financial statements, effects of errors and changes on statements, preparation of funds flow statement, and valuation problems in accounting for liabilities (including

specialized issues of accounting for leases and pensions) and stockholders' equity. Prerequisite: AC 251. 3 credits.

**292–298. Special Topics.** 1–6 credits.

**351. Advanced Accounting.** A study of partnerships, installment sales, consignment sales, home-branch office relationships, business combinations, special problems of consolidations, foreign subsidiaries and branches, and fiduciary accounting. Prerequisite: AC 252. 3 credits.

**352. Government and Non-Profit Accounting.** Basic concepts of fund and budgetary accounting used for the financial activities of federal, state, and local government units; systems for achieving accounting and administrative controls for service organizations, such as hospitals, educational institutions, and other non-profit organizations. Prerequisite: AC 152. 3 credits.

**353. Cost Accounting.** The accumulation and recording of the costs associated with the manufacturing operation including job-order, process and standard cost systems, and joint and by-product costing. Prerequisite: AC 152. 3 credits.

**354. Advanced Cost and Managerial Accounting.** Topics covered include budgeting, cost-volume-profit analysis, decision models, pricing decisions, and segmental analysis. Prerequisite: AC 353. 3 credits.

**391–398. Special Topics.** 1–6 credits.

**400. Internship.** Field experience in a business, government, or other organization. Ordinarily for juniors or seniors only. Prerequisite: G.P.A. of 2.5 in major and permission of department chairman. 1–15 credits.

**451. Individual Income Tax Accounting.** Analysis of the federal income tax laws as they apply to individuals; case problems, preparation of returns. Prerequisite: AC 152. 3 credits.

**452. Corporate Income Tax.** Analysis of the federal income tax laws as they apply to corporations, partnerships and fiduciaries; case problems, preparation of returns. Prerequisite: AC 451. 3 credits.

**455. Auditing.** A study of the process of evaluation of internal controls and interpretation of financial information in order for an auditor to express a professional opinion on financial reports. Prerequisite: AC 252. 3 credits.

**491–498. Special Topics.** 1–6 credits.

**500. Independent Study.** A course to allow the student to investigate an accounting subject not incorporated into the curriculum. Ordinarily for juniors or seniors only. By permission of department chairman. 1–6 credits.

## Courses in Management

**100. Business and Its Environment.** A survey course investigating selected components of the macro-environment which surround any organization—profit and nonprofit—and which have a growing impact on managerial processes and functions. Specifically examines changing business values, the impact of rapidly changing technology, business ethics, government-business relations, and rapidly shifting societal and political expectations and influences as they affect such organizations. 3 credits.

**191 – 198. Special Topics.** 1 – 6 credits.

**222. Quantitative Methods.** An introduction to some of the quantitative methods used in modern management science and economics. Topics include probability concepts, forecasting, decision theory, linear programming, queuing theory, network models, and Markov analysis. Prerequisites: MA 150 and 170. 3 credits.

**250. Real Estate I.** Examination of real estate and the market forces affecting it: finance, sales, and brokerage operations. 3 credits.

**291 – 298. Special Topics.** 1 – 6 credits.

**330. Principles of Management and Organizations.** A study of management principles, organizational theory, and administrative techniques as they apply to the effective and efficient operation of both profit and non-profit organizations. Emphasizes the organization's structure, leadership, interpersonal relationships, and managerial functions. Incorporates comparative management operations within the international context. Prerequisite: junior standing or permission of instructor. 3 credits.

**340. Principles of Marketing.** An overview of marketing from the management perspective. Topics include marketing strategies; marketing research; consumer behavior; selecting target markets; developing, pricing, distributing, and promoting products; services and non-profit marketing. Prerequisite: junior standing or permission of instructor. 3 credits.

**341. Consumer Behavior.** Analysis of factors affecting purchase decisions in the marketplace; application of behavioral and social science concepts to the study of consumer behavior. Emphasis on use of knowledge of consumer behavior for marketing decisions. Prerequisite: MG 330 and MG 340, or permission of instructor. 3 credits.

**350. Organizational Behavior and Development.** A detailed study of theories and models of organizational behavior and development, with emphasis on the practical application of these models in the workplace to

improve individual, group, and organizational performance. Prerequisite: junior standing and MG 330, or permission of instructor. 3 credits.

**361. Corporation Finance.** A study of financial management covering analysis of asset, liability and capital relationships and operations; management of current assets, working capital, cash, liquid assets, receivables, inventory; capital planning and budgeting; capital structure and dividend policy; short- and intermediate-term financing; long-term financing, external and internal; mergers and acquisitions; multinational operations; and corporation failures and liquidation. Prerequisite: AC 151, 152; EC 110, 120; MG 222; MA 150, 170; or permission of instructor. 3 credits.

**362. Investments.** An analysis of investment and its relation to other economic, legal, and social institutions. The course includes discussion of investment principles, machinery, policy, management, investment types, and the development of portfolios for individuals and institutions. Prerequisite: MG 361. 3 credits.

**364. Advertising.** A study of the role of advertising. The course includes analyses of various media in retail and industrial settings, the organization and function of advertising agencies and departments, and creativity in various media. Prerequisite: MG 340. 3 credits.

**366. Retail Management.** Analysis of retail institutions with regard to market structure, store development, merchandising, staffing, promotion, customer service, record keeping, and security. Prerequisite: MG 340. 3 credits.

**371/372. Business Law I, II.** Elementary principles of law as they relate to the field of business. The course covers contracts, agency, employment, commercial paper, personal property, sales, security devices, insurance, partnerships, corporation, real estate, estates, bankruptcy, and government regulations. 3 credits per semester. Prerequisites: AC 151 and 152 highly recommended.

**376. International Business Management.** A study of the management techniques and procedures necessary in international and multinational organizations. Prerequisite: MG 340. 3 credits.

**380. Small Business Management.** A study of small business, including organization, staffing, production, marketing, and profit planning. Cases are used extensively in presenting the course material. Prerequisites: AC 152 and MG 330, or permission of instructor. 3 credits.

**384. Marketing Research.** An introduction to the methodology of marketing research. Specific topics covered include problem formulation, research design, sample design, data collection, analysis and interpretation

of data, and presentation of research findings. Prerequisites: MG 330 and 340. 3 credits.

**391 – 398. Special Topics.** 1 – 6 credits.

**400. Internship.** Field experience in a business, government or other organization. Ordinarily for juniors or seniors only. By permission of department chairman. 1 – 15 credits.

**420. Personnel Management.** This course examines the problems in effectively recruiting, selecting, training, developing, compensating, and disciplining human resources; it includes both equal employment opportunity and labor-management relations. Prerequisite: G.P.A. of 2.75 in major, or permission of instructor. 3 credits.

**425. Labor and Industrial Relations.** Emphasis on the origin, growth, and development of labor organizations and the impact of such organizations on management practices. Topics included are: legislation affecting industrial relations; collective bargaining process; contract administration; industrial jurisprudence; and arbitration. Prerequisite: MG 330 or permission of instructor. 3 credits.

**460. Management Information Systems.** Examines data sources and the role of information in the organization for purposes of management planning, operations, and control in various types of business environments. Treats information as a key organizational resource parallel to people, money, materials, and technology. Views information and its uses within a general systems framework. Prerequisite: AC 152; CS 147 or 170; MG 330 or permission of instructor. 3 credits.

**483. Production and Operations Management.** An overview of the production/operations management function as applied to both manufacturing and service organizations. It provides a background of the concepts and processes used in the production/service operations area. Integrated throughout are considerations of the information systems, the people involved, the quantitative techniques employed, and the international implications. Prerequisite: MG 222, 330 or permission of instructor. 3 credits.

**485. Business Policy.** A capstone course to study administrative processes under conditions of uncertainty, integrating prior studies in management, accounting, and economics. Uses the case method and a computer management simulation. Prerequisite: permission of instructor. 3 credits.

**491 – 498. Special Topics.** 1 – 6 credits.

**500. Independent Study.** A course to allow the student to investigate a management subject not incorporated into the curriculum. Ordinarily for juniors or seniors only. By permission of department chairman. 1 – 6 credits.

## Courses in Economics

**100. Basic Economics.** An introductory study of the historical, cultural and theoretical basis of economics. A survey of economic decision-making tools and applications. Areas surveyed include: economic systems, allocation of resources, inflation, employment and national income policies and international trade. Not for management, economics or accounting majors. 3 credits.

**110. Principles of Economics I.** An introductory study of economic principles and the American economy, with emphasis on the elementary concepts of national income, price level, business fluctuations, banking, money supply, and economic growth. 3 credits.

**120. Principles of Economics II.** An introductory study of economic principles and the American economy, with emphasis on the elementary concepts of the consumption function, production function, product pricing, factor pricing, resource allocation, labor economics, public finance, and international economics. 3 credits.

**130. Economics of Public Issues.** A survey and economic analysis of public issues. 3 credits.

**191 – 198. Special Topics.** 1 – 6 credits.

**201. Microeconomic Analysis.** Managerial and economic decision-making of business firms, with emphasis on sales, costs, profit, and resource allocation. The course provides a study of the tools of analysis, with stress on computer programming. Prerequisites: EC 110 and 120. 3 credits.

**203. Macroeconomic Analysis.** A study of contemporary theories of the macro-economy. Emphasis is placed on policy applications of the models. Prerequisites: EC 110 and 120. 3 credits.

**291 – 298. Special Topics.** 1 – 6 credits.

**312. Money and Banking.** Nature and functions of money and credit. The course includes the development and role of commercial and central banking and structure and functions of the Federal Reserve System, as well as monetary and banking theory, policy, and practice. Prerequisites: EC 110 and 120. 3 credits.

**321. Public Finance.** A study of the economic functioning of government including public sector efficiency, principles of taxation, influence of public policy, and economic and social aspects of public spending. Prerequisites: EC 110 and 120. 3 credits.

**332. International Economics.** A study of theories and empirical analysis of international economic relations. Topics include analyses of free exchange of goods, factors, and money; restrictive trade policies; and freer economic practices. Prerequisites: EC 110 and 120. 3 credits.

**391–398. Special Topics.** 1–6 credits.

**400. Internship.** Field experience in a business, government or other organization. Ordinarily for juniors or seniors only. Prerequisite: G.P.A. of 2.75 in major and permission of department chairman. 1–15 credits.

**401. History of Economic Thought.** The evolution of economic thought through the principal schools from mercantilism to the present. Attention is given to the analysis of the various theories of value, wages, interest, rent, profit, price level, business cycles, and employment, and to the influences of earlier economic ideas upon current thinking and policy-making. Prerequisites: EC 110 and 120. 3 credits.

**411. Economic Growth and Development.** Analysis of classical and modern theories and models of economic growth; study of theory and implications of alternative development policies. Prerequisites: EC 110 and 120. 3 credits.

**491–498. Special Topics.** 1–6 credits.

**500. Independent Study.** A course to allow the student to investigate an economic subject not incorporated into the curriculum. Ordinarily for juniors or seniors only. By permission of department chairman. 1–6 credits.

## Mathematical Sciences

The Department of Mathematical Sciences offers major programs in actuarial science, computer information systems, computer science, and mathematics, as well as a concentration in operations research. The major in mathematics can be tailored to prepare the student for graduate school, secondary school teaching, work in business or industry, or to dovetail with a second major in another department.

A rigorous study of mathematics is the common foundation of the majors in actuarial science, computer science and mathematics. The structure of the

required core courses allows each student complete flexibility in choice of one of the three majors, usually by the end of the second year of study. The major in computer information systems substitutes an applications area, of the students choice, in place of the strong mathematics core. A strong effort is made not to differentiate among the students in the department by majors.

The major in actuarial science is unique. Lebanon Valley College is the only four-year college east of the Mississippi which offers courses specifically designed to prepare for the first four examinations of the Society of Actuaries and the Casualty Actuarial Society. Independent study offers the opportunity to work towards Exam 5 of the Society of Actuaries.

The major programs in computer information systems and in computer science implement the recommendations of the Association for Computing Machinery and of the Data Processing Management Association. PASCAL, BASIC-PLUS, FORTRAN and COBOL are taught and used in a broad range of courses in scientific computing and in business applications of computer methods. Other languages such as ADA, C, Forth, and Lisp, are available. Particular emphasis is placed on microcomputers and on computer graphics. The computer science laboratory is equipped with microcomputers, a PDP 11/40, and various other pieces of hardware including equipment with graphics capability. A unique computer science lecture room facilitates presentation of the various languages and computer techniques. Terminals are located in the laboratory and the computer center, which operates a powerful version of the PDP 11/70 for academic and administrative support. Other equipment is located throughout the campus, including both terminals and microcomputers. A college micro-computer lab includes Apple IIe and IBM-PC microcomputers as well as Zenith 150 microcomputers with 10 mega-byte hard disks.

**DEGREES:** B.S. with a major in mathematics; B.S. with a major in actuarial science; B.S. with a major in computer information systems; B.S. with a major in computer science.

**MAJORS:** Core requirements for actuarial science, computer science and mathematics MA 111, 112, 202, 211, 222 and CS 147, plus additional requirements by major.

**Mathematics:** Core plus 15 hours in courses numbered above 300.

**Actuarial Science:** Core plus MA 335, 371, 372, 463, 471; AS 385, 481, 482; AC 151, 152; EC 110, 120; also Exam 1 of the Society of Actuaries must be passed by the fall of the senior year.

**Computer Information Systems:** CS 147, 248, 243, 244, 345, 346 (18 hours)

and one CS course numbered above 400 (three hours) or six-hour internship. MA 150, 170 and MA 160, 161 or 111. EN 210 or 216. Five courses numbered above 200, approved by the advisor, in an applications field of interest.

**Computer Science:** Core plus two courses from among MA 270, 322, 411, OR 335, 336. The following computer science courses: one from CS 242, 243, or 244; three additional computer science courses numbered above 300 including at least one numbered above 400; EN 216 and PSY 337.

**Concentration in Operations Research:** Satisfying the major in mathematics but specifically including MA 371, 372, OR 335, 336 and one computer science course numbered above 300. Students interested in an individualized major additionally should select courses from the following: MG 180, EC 201, EN 216, PH 228, and PSY 337.

## Courses in Mathematics

**100. Basic Concepts of Mathematics with Computers.** A study of a variety of topics from mathematics and the use of the computer as a tool. Topics include: patterns and inductive reasoning, calculators, number systems, nature of algebra, interest, installment buying, metric system, geometric concepts, computer word processing, and writing a computer program. 3 credits.

**102. Algebra and Trigonometry.** An introduction to college algebra and trigonometry. Algebraic expressions and equations, inequalities, absolute value, exponents, logarithms, functional notation, graphs of functions, systems of equations, modeling and word problems. Angular measurement, trigonometric functions, identities, formulas, radian measure, graphs of trigonometric and inverse functions. 3 credits.

**111, 112. Analysis I, II.** A rigorous calculus sequence for majors of the department. 5 credits per semester.

**150. Finite Mathematics.** Introduction to finite mathematics with emphasis on economic and business applications. Topics include: sets and algebra, lines and systems of equations, matrices, linear programming, probability, statistics, Markov processes, mathematics of finance. 3 credits.

**160. Calculus for Business.** Introduction to differential and integral calculus with emphasis on concepts and techniques most applicable to business and economics. 3 credits.

**161, 162. Calculus I, II.** A calculus sequence with emphasis on applications. Topics include: functions and limits, differentiation, integration,

logarithm and exponential functions, inverse trigonometric and hyperbolic functions, improper integrals, l'hopitals rule, infinite series, and conic sections. 3 credits.

**170. Elementary Statistics.** Elementary descriptive and inferential statistics. Topics include: graphical presentation, measures of central tendency, probability, binomial distribution, normal distribution, hypothesis testing, estimation, comparison testing, linear models and correlation, analysis of variance, and contingency tables. 3 credits.

**191 – 198. Special Topics.** 1 – 6 credits.

**202. Foundations of Mathematics.** Introduction to logic, set theory and real and complex numbers. Prerequisite: MA 112. 3 credits.

**211. Analysis III.** Continuation of Analysis I, II. Prerequisite: MA 112. 3 credits.

**222. Linear Algebra.** Vectors, matrices, systems of equations, applications. Prerequisite: MA 112. 3 credits.

**261. Calculus III.** Continuation of Calculus I, II. Topics include: polar coordinates, parametric equations, vectors in the plane, three-dimensional space, partial derivatives, multiple integrals, and vector calculus. Prerequisite: MA 162. 3 credits.

**266. Differential Equations.** First and second order differential equations, partial differential equations. Prerequisite: MA 211 or 261. 3 credits.

**270. Intermediate Statistics.** An advanced version of MA 170. Prerequisite MA 112 or MA 162. 3 credits.

**291 – 298. Special Topics.** 1 – 6 credits.

**322. Abstract Algebra.** Fundamentals of groups, rings, fields. Prerequisite: MA 222. 3 credits.

**325. Geometry.** Axiomatic development of Absolute, Euclidean and non-Euclidean geometries. Prerequisite: MA 112. 3 credits.

**335, 336. Operations Research I, II.** Linear programming, queuing theory, decision theory. Includes material for the part 3 Society of Actuaries and Casualty Actuarial Society examination. Prerequisites: MA 222, 371. 3 credits.

**371. Mathematical Probability.** Random variables, probability law and distributions. Prerequisite: MA 211. 3 credits.

**372. Mathematical Statistics.** Generating functions, decision theory, tests of hypotheses. Prerequisite: MA 371. 3 credits.

**391 – 398. Special Topics.** 1 – 6 credits.

**412. Functions of a Complex Variable.** Analytic functions. Cauchy theorem, conformal mapping. Prerequisite: MA 411. 3 credits.

**452. Seminar for Teachers.** Issues of concern to the prospective secondary school teacher. 1 credit.

**463, 464. Numerical Analysis I, II.** Numerical integration, interpolation, differential equations, matrix methods. Includes material for part 3 Society of Actuaries, Casualty Actuarial Societies examination. Prerequisites: MA 266, CS 140. 3 credits per semester.

**471. Applied Statistics.** Linear regression and correlation analysis, analysis of variance, sampling, time series analysis. Prerequisite: MA 372. 3 credits.

**490–498. Special Topics.** 1–6 credits.

**499. Seminar.** Problem solving techniques and other selected topics. Prerequisites: MA 211. 1 credit.

**500. Independent Study.** Independent study and research. Variable credit.

## Courses in Actuarial Science

**385. Theory of Interest.** Study of material for the part 4 Society of Actuaries, Casualty Actuarial Society, and Enrollment Actuaries examination. Prerequisite: MA 211. 3 credits.

**391–398. Special Topics:** 1–6 credits.

**481, 482. Life Contingencies I, II.** Study of material for the part 4 Society of Actuaries, Casualty Actuarial Society and Enrollment Actuaries examination. Prerequisite: MA 372. 3 credits.

**491–498. Special Topics.** 1–6 credits.

**500. Independent Study.** Study of material for further Society of Actuaries or Casualty Actuarial Society examinations. Variable credit.

## Courses in Computer Science

**130. Microcomputers, Hardware and Software.** The components of a microcomputer, introduction to operating systems, languages and software packages. 3 credits.

**147. Computers and Programming in Pascal.** Introduction to the basic concepts and terminology of computer hardware, software, operating systems and languages. Programming in Pascal. 3 credits.

**170. Computers and Programming in BASIC-PLUS.** Introduction to the basic concepts and terminology of computer hardware, software, operating systems and languages. Programming in Basic-Plus. 3 credits.

**242. Scientific Computing with FORTRAN.** Number representation, multi-dimensional arrays, data manipulation, extensive computation. Prerequisite: CS 140, MA 102. 3 credits.

**243. Interactive Systems with BASIC-PLUS.** Time-sharing systems, microcomputers and BASIC; arrays, strings, virtual arrays, random access files, elementary graphics. Prerequisite: CS 147 or 170. 3 credits.

**244. Business Computing with COBOL.** Processing of data, the storing and manipulating of files; sorting, and merging of records. Prerequisite: CS 147 or 170. 3 credits.

**248. Advanced Programming with Pascal.** Advanced features of Pascal. Developing large programs. Libraries, units, etc. Prerequisite: CS 147. 3 credits.

**250. Survey of Computers and their Impact.** Computer hardware and software from the microcomputer to the mainframe. The social, economic and ethical impact of computers.

**341. Computer Architecture with MACRO.** The organization of computers, the CPU, memory, disks, interfaces, interrupts, macros, device drivers. Prerequisite: CS 248. 3 credits.

**342. Data Structures.** Discrete mathematical structures and their use in computer software. Stacks, lists, queues, hash tables, sorts, linked lists. Prerequisite: CS 248, MA 222. 3 credits.

**345. Business Computer Systems.** An overview of computer hardware and software from micro- to main-frame. Batch processing, time sharing, word processing, spreadsheets. Data processing and communication. Management of and with computers. Prerequisite: CS 147. 3 credits.

**346. Data Algorithms.** Methodology of data processing. Representation, storage, and retrieval of data. Methods to sort, merge, and match data. Sequential, random, indexed, and hash files. Prerequisite: one 200 level course. 3 credits.

**400. Internship.** 1 – 15 credits.

**441. Computer Languages and Compilers.** Syntax and semantics of languages. Lexical analysis, parsing, and translation. Compiler design. Prerequisite: CS 342. 3 credits.

**442. Microcomputer Systems.** The architecture of microcomputers. Programming in assembly language. Interfacing microcomputer components.

The design of microcomputer operating systems. Prerequisite: CS 147. 3 credits.

**445. Database Management.** The organization of files. Database structure and implementations. Integrity and security of data bases. Major DBM systems. Prerequisite: two 300 level courses. 3 credits.

**446. Computer Systems Analysis and Design.** Principles of computer management. Design tools and techniques. Hardware, operating systems, languages and their interrelations. Implementation and evaluation of computer systems. Prerequisite: CS 345 or MA 335 and two 300 level courses. 3 credits.

**491 – 498. Special Topics.** 1 – 6 credits.

**500. Independent Study.** Individual work on one of a large choice of mini and microcomputers, languages, software packages, and graphics. Variable credit.

## **Military Science**

The Department of Military Science adds another dimension to a Lebanon Valley College liberal arts education by offering courses which develop a student's ability to organize, motivate, and lead others.

Participation in Military Science courses during the freshman and sophomore years results in no military obligation. Courses during these years orient students on the various roles of Army officers. Specifically, these courses stress self development: written and oral communication skills, leadership, bearing, and self-confidence.

Individuals who elect to continue in the program during the junior and senior years will receive a commission as a second lieutenant in the U.S. Army upon graduation. They will be required to serve three months to four years in the active Army, depending upon the type of commission.

Options are available for those individuals who encounter scheduling conflicts or who desire to begin participation after their freshman year. Contact the department for further information.

Program participants may take part in various enrichment activities during the academic year: rappelling, rifle qualification, cross-country skiing, white-water rafting, leadership exercises, land navigation, orientation trips, and formal social functions. Program participants may also apply for special training courses during the summer: Russian language, flight orientation, airborne, air assault, and northern warfare schools.

**Financial Assistance:** Books and equipment for military science courses and the ROTC program are provided free of charge to all cadets. (However, all cadets do pay an activity fee of \$15 per semester.) All juniors and seniors in the ROTC program (Advanced Course) and scholarship cadets are paid a tax-free subsistence allowance of \$100 per month and receive certain other benefits.

**Scholarships:** Army ROTC scholarships based on merit are available. Recipients receive full tuition, academic fees, a semester allowance for books and supplies, and a \$100 per month subsistence allowance. Cadets and other Lebanon Valley students may compete for three-year (starts in sophomore year) and for two-year (starts in junior year) year scholarships. Recipients agree to a service obligation. Scholarships are also available for students entering medical school or pursuing graduate studies in the basic health sciences. Selected ROTC graduates are also eligible for scholarships to pursue graduate studies in other academic disciplines. For additional information, contact the department chairman.

**Corresponding Studies Program:** Students participating in an off-campus study program in the United States or abroad may continue participation in either the Army ROTC Basic Course or Advanced Course and receive the same course credit and benefits as a student enrolled in the on-campus program. Scholarship students are also eligible to participate in this program.

**Advanced Leadership Practicum:** The practicum consists of a six-week summer training program at an Army installation which stresses the application of military skills to rapidly changing situations. Participants are evaluated on their ability to make sound decisions, to direct group efforts toward the accomplishment of common goals and to meet the mental and physical challenges presented to them. Completion of this practicum is required prior to commissioning and it is normally attended between the junior and senior years. Participants receive room, board, travel expenses, medical care, and pay.

## **Departmental Courses:**

**101, 102. Introduction to Military Science.** Emphasis on developing self-confidence and bearing. Instruction and weekly practical training in basic skills such as map reading, rappelling, weapons, communications, first aid, tactical movements, customs and courtesies, public speaking, and leadership. Meets one hour per week each semester. Also four to six Saturdays of voluntary adventure training and one formal social event each semester. No credit.

**201, 202. Application of Military Science.** Advanced instruction in topics introduced in the first year. Participation in operations and basic tactics to demonstrate leadership problems and to develop leadership skills. Meets two hours per week each semester. Also four to six Saturdays of voluntary adventure training and one formal social event each semester. No credit.

**301, 302. Advanced Application of Military Science.** Emphasis on leadership. Situations require direct interaction with other cadets and test the student's ability to meet set goals and to get others to do the same. Students master basic tactical skills of the small unit leader. Meets two hours per week and selected weekends each semester. Prerequisite: Open only to advanced course cadets. No credit.

**311. American Military History.** Survey of American military history from the initial settler/Indian conflicts to the post-Hiroshima, post-Vietnam world of today. Critical analysis of the changes in the ways American armies fought, organized to fight, and planned to fight the enemy. Also includes a study of the evolution in strategic thinking, civil-military relations, and the status of reserve forces. Prerequisite: Permission of the instructor. No credit.

**401, 402. Command and Staff.** Emphasis is placed on developing planning and decision-making capabilities in the areas of military operations, logistics, and administration. Meets two hours per week and selected weekends each semester. Prerequisite: Open only to Advanced Course cadets. No credit.

Students who wish to receive a commission must complete all of the above courses (or receive advanced placement credit for 101 – 202), the advanced leadership practicum, an advanced writing course, and an approved course in human behavior.

## Music

Students in the Department of Music may major in one of four areas: music performance, sacred music, sound recording technology (see page 78), or music education. Each student, regardless of major, is required to take a core of courses in theory and music history. Each student also completes additional course work particular to his area of interest.

Attendance at some faculty and student recitals is compulsory. All students in the department are required to take private instruction on campus in their principal performance medium (one-half hour of private instruction is included in the basic tuition). Students whose major applied instrument is organ are required also to study piano, continuing until they have attained a

level of proficiency satisfactory to the organ faculty. Participation in music organizations is also required of all majors.

The **music performance major** is designed for those students desiring a liberal arts context in their preparation for careers in applied music. All majors are required to take a weekly one hour lesson in the principal performance medium; they are also required to perform a half recital in the junior year and a full recital in the senior year. Majors whose performance medium is a band or orchestral instrument are required to study voice and piano as well.

The **sacred music major** prepares students for careers as directors of church music, ministers of music, or college teachers. The program is open to those individuals whose interests are voice or organ. All majors are required to acquire sufficient skill to assume responsibilities as a qualified parish church musician. Majors whose principal performance medium is organ are required to study voice for at least two years, one of which may be a year of class experience. Majors whose principal performance medium is voice are expected to show sufficient keyboard proficiency upon admission to the program that after two additional years of piano study (normally by the end of the sophomore year) they may benefit from a year of organ study.

The **music education major**, approved by the Pennsylvania Department of Education and the National Association of Schools of Music, is designed for the preparation of public school music teachers, kindergarten through twelfth grades, instrumental and vocal. The music education curriculum requires voice instruction (class or private) for a minimum of one year and piano instruction (class or private) for a minimum of two years. A competency jury must be passed in each area. Students participate in student teaching in area elementary and secondary schools. Each student is responsible for transportation arrangements to and from the teaching location.

**DEGREES:** Bachelor of Arts with a major in music, Bachelor of Music, Bachelor of Music in Sacred Music or Sound Recording Technology, and Bachelor of Science with a major in music education.

**MAJORS:** Core courses of all music majors are MU 115, 116, 117, 118, 215, 217, 226, 246, 316, 341, 342, 530 or 540, or 550 for the B.M. Plus, all students may earn up to 12 credit hours for major ensemble participation.

**Music Education:** Core courses plus MU 123, 124, 227, 231, 232, 328, 333, 334, 335, 336, 337, 338, 345 or 347, 402 or 404, 416, 441, 607, and 609 for at least 66 credits. Students whose performance medium is piano are required to study 1 year of voice. Students whose performance medium is

voice are required to complete 2 years of piano study. Students whose performance medium is band or orchestral instrument are required to complete 2 years of piano study and 1 year of voice study. All study includes class or private instruction.

**Orchestral and Band Instruments (B.M.):** Core courses plus 224, 315, 329, 400, 403, 123/124 or 231/232 or 227/328, 416, 462, 510 or 530, 520 or 530, plus ensembles for at least 81 credits.

**Piano (B.M.):** Core courses plus 224, 306, 315, 329, 347, 400, 406, 411, 416, 462, 520 or 530, plus ensembles (4 credits) and accompanying (6 credits) for at least 80 credits.

**Sacred Music (B.M.):** Core courses plus MU 224, 315, 329, 347, 462. Organ track; MU 132, 321, 322, 351, 352, 354, 421, 422, 520, 530 (voice and piano) for at least 81 credits. Voice track; MU 132, 321, 322, 326, 327, 351, 421, 422, 530 (organ and piano) for at least 79 credits.

## **Sound Recording Technology**

Because of the continuing technological revolution — as exemplified by such new distribution media as cable networking, digital compact discs, Dolby stereo recordings and films, satellite broadcasting and narrowcasting, and stereo television — the field of sound recording technology is expanding at an enormous rate. The program in sound recording technology is designed for students who wish to gain the theoretical and practical knowledge necessary for careers with responsibility for recording technology in the fields of radio and television, film, and audio production.

**DEGREE:** Bachelor of Music with a major in sound recording technology.

**MAJOR:** 56 credits of music courses, including MU 115, 116, 117, 118, 123, 215, 217, 226, 227, 231, 246, 287, 328, 337, 345, 388, 400, 416, 489, 500, 510, 520, 530, and one credit of music above 600; AC 151; nine hours in computer science approved by advisor; MA 100; MG 100, PHY 110, 212, 350.

## **Courses in Music**

**115. Harmony I.** A study of the rudiments of music and their notation. Harmonization of melodies and basses with fundamental triads. Analysis. 2 credits.

**116. Harmony II.** A study of inversions of triads, seventh chords, the

principles of modulation and figured bass. Analysis of hymns and standard literature. 2 credits.

**117. Ear Training and Sight Singing I.** The singing and aural recognition of intervals, scales, triads and simple harmonic progressions. 2 credits.

**118. Ear Training and Sight Singing II.** A continuation of the above, emphasizing clef reading, modality, modulation and more complicated rhythmic devices and harmonic patterns. 2 credits.

**215. Harmony III.** The writing and analysis of exercises and literature which include secondary dominant, diminished seventh chords and substitutes for diatonic harmony. Analysis and discussion of Twentieth Century compositional techniques. 2 credits.

**217. Basic Concepts of Structure and Style.** An advanced ear training course using literature representing various stylistic periods and performance media as the basis for analysis, discussion and aural recognition. 2 credits.

**224. Counterpoint.** Introductory work in strict counterpoint through three- and four-part work in all the species. Required for music and sacred music majors. 2 credits.

**226. Form and Analysis I.** A study through analysis and listening of simple and compound forms, variations, contrapuntal forms, rondo and sonata forms. Emphasis is placed primarily upon structural content. The course provides experience and skill in both aural and visual analysis. 2 credits.

**315. Harmony IV.** Elementary Composition. Exposure to the composition of various forms, including theme and variation, rondo, song and dance forms; exploration of Twentieth Century compositional techniques. Required for music and sacred music majors. 2 credits.

**316. Keyboard Harmony.** Score reading and the realization of figured bass at the keyboard, transposition, and improvisation. The successful completion of a piano jury is required for admission to the course. 2 credits.

**329. Form and Analysis II.** A study through analysis and listening of fugal forms, suite, complex sonata forms and techniques for analysis of certain contemporary styles of music. 2 credits.

**416. Orchestration.** A study of instrumentation and the devices and techniques for scoring transcriptions, arrangements and solos for orchestra and band, with special emphasis on practical scoring for mixed ensembles as they occur in public schools. Laboratory analysis and performance. Scoring of original works. 2 credits.

## **Materials and Methods**

**220. Music in the Elementary School.** A course designed to aid elementary education majors in developing music skills for the classroom, including the playing of instruments, singing, notation, listening, movement, and creative application. 3 credits.

**280. Field Practicum in Music Education.** Supervised field experiences in appropriate settings. Required pass/fail. Prerequisites: ED 110 and permission. 1 – 3 credits.

**326. Vocal Literature.** A survey of solo vocal literature, with emphasis on teaching repertoire. Extensive listening is required. Students may have opportunities to perform works studied. 2 credits.

**327. Vocal Pedagogy.** This course is designed to prepare the advanced voice student to teach private lessons at the secondary school level. Students in the class are expected to develop vocal exercise procedures, become familiar with suitable teaching repertoire and apply teaching procedures in a laboratory situation. Selected writings in vocal pedagogy and voice therapy will be studied. 2 credits.

**333. Methods and Materials, General Music: Elementary.** A comprehensive study of general music teaching at the elementary school level, the philosophy of music education, varied approaches for developing conceptual learning and music skills, creative applications, and analysis of materials. 3 credits.

**334. Methods and Materials, General Music: Junior High/Middle School.** A study of materials and approaches appropriate for general music classes in the junior high/middle school, including adolescent voices, musically-oriented learning experiences, and planning a general music curriculum. 3 credits.

**335. Methods and Materials, Instrumental: Fourth, Fifth and Sixth Grades.** A study of methods and materials used in teaching band and orchestral instruments to children in these grades, with emphasis on a sound rhythmic approach. Both individual and class techniques are studied. 2 credits.

**336. Methods and Materials, Instrumental: Junior and Senior High School.** A study of intermediate and advanced instrumental teaching techniques, methods of organizing and directing school orchestras and bands, fundamentals of musicianship. 2 credits.

**400. Chamber Music.** Under the guidance of an instructor, the student studies and performs chamber works appropriate to his performance medium. Prepared works may be presented in recital. 1 – 2 credits.

**402. Seminar in Advanced Instrumental Problems.** A study of problems confronting the director of school orchestras, bands and instrumental classes including: organization and management, selection of beginners, rehearsal scheduling, budgeting, marching band drills, evaluation of materials, and organization of festivals, contests and public performances. 2 credits.

**403. Pedagogy.** Orchestral and Band Instruments. A survey of literature and teaching materials which relate to the student's performance area. Students may be expected to apply teaching procedures in a laboratory situation. 2 credits.

**404. Music Education Seminar, Secondary Level.** A study of the high school vocal music curriculum and related course offerings. 2 credits.

**406. Piano Pedagogy.** A practical course which explores fundamental principles necessary to be an effective piano teacher. Subjects include practice techniques, memorization and the selection of appropriate technical materials for both beginners and advanced students. Laboratory teaching may be required of the student. 2 credits.

**411. Piano Ensemble.** A course designed to acquaint the students with problems related to piano ensemble performance. Practical experience will be gained through study and performance of appropriate literature. 2 credits.

**422. Church Music Methods and Administration.** A course designed to acquaint the student with the total church music program. Topics include the development of a choir program, methods and techniques of rehearsal, budget preparation, and committee and pastoral relationships. Required for sacred music majors. 2 credits.

**441. Student Teaching.** Music education majors spend a semester in the music department of an area school district under the supervision of cooperating teachers. Prerequisites: (1) a cumulative grade point average of 2.0 during the first six semesters in college; (2) successful completion of piano and voice juries; (3) completion of Music 333, 334, 335, 336 including field experiences; (4) approval of the music faculty. 12 credits.

**600. Accompanying.** Under the guidance of a piano instructor the piano major prepares accompaniments for recital performance. One credit per semester is given for one solo recital or two half recitals. A maximum of six credits, usually distributed over the last three years, may be earned.

## Instrumental Courses

Class Instruction in Band and Orchestral Instruments. Practical courses in which students, in addition to being taught the fundamental principles underlying the playing of all band and orchestral instruments, learn to play on instruments of each group: string, woodwind, brass, and percussion. Problems of class procedure in public schools are discussed; transposition of all instruments is taught. Ensemble playing is an integral part of these courses. Bibliographical materials are surveyed.

Brass Instruments (trumpet, horn, trombone, baritone, tuba)

**123. Brass I.** A study of two of the above instruments. 1 credit.

**124. Brass II.** A study of the remainder of the above instruments. 1 credit.

Percussion Instruments (snare drum, timpani, bass drum, and others)

**227. Percussion I.** A study of the snare drum.  $\frac{1}{2}$  credit.

**328. Percussion II.** A study of the remainder of the above instruments.  $\frac{1}{2}$  credit.

Woodwind Instruments (clarinet, flute, oboe, saxophone, bassoon)

**231. Woodwind I.** A study of the clarinet. 1 credit.

**232. Woodwind II.** A study of the remainder of the above instruments. 1 credit.

String Instruments (violin, viola, cello, string bass)

**337. String I.** A study of all the above instruments. 1 credit.

**338. String II.** A continuation of the study of all of the above instruments. 1 credit.

## Music Organizations

Opportunities for individual performance in a group experience are provided by music organizations. Membership in the organizations is open on an audition basis to all students of the College.

**601. Symphonic and Marching Band.** The symphonic band performs original literature as well as arrangements of standard repertoire. During the football season it presents half-time performances. Membership is by audition and is dependent upon the instrumentation needs of the organization. 1 credit.

**603. Symphony Orchestra.** A wide variety of symphonic literature is studied and performed. In the second semester the orchestra accompanies

soloists in a concerto-aria concert and on occasion combines with choral organizations for the performance of a major work. 1 credit.

**604. Concert Choir.** The Concert Choir is composed of approximately fifty voices, selected by audition. All phases of choral literature are studied intensively. In addition to local concerts, the choir tours annually. 1 credit.

**605. College Chorus.** The College Chorus offers the opportunity to study and perform literature of various styles and composers including major choral works. Choral experience is preferred but not required. Required for sacred music majors.  $\frac{1}{2}$  credit.

**606. Chapel Singers.** Composed of approximately twenty voices. The singers provide leadership during selected Chapel Convocation programs and present concerts for local churches and civic organizations.  $\frac{1}{2}$  credit.

**607. Beginning Ensemble I.** A training band in which students play secondary instruments and become acquainted with elementary band literature. Opportunity is given for advanced conducting students to gain conducting experience. No credit.

**608. Wind Ensemble.** The Wind Ensemble provides an opportunity for advanced players of wind and percussion instruments to play the repertoire for this medium. In addition, standard classical works for wind and/or percussion instruments are played. Members are chosen by audition.  $\frac{1}{2}$  credit.

**609. Beginning Ensemble II.** A training orchestra in which students play secondary instruments and become acquainted with elementary orchestral literature. Opportunity is given for advanced conducting students to gain experience in conducting. No credit.

**Instrumental Small Ensembles.** Open to the advanced player on an audition basis.

**611. String Trio.**  $\frac{1}{2}$  credit.

**612. String Quartet.**  $\frac{1}{2}$  credit.

**613. Clarinet Choir.**  $\frac{1}{2}$  credit.

**614. Woodwind Quintet.**  $\frac{1}{2}$  credit.

**615. Brass Ensemble.**  $\frac{1}{2}$  credit.

**616. Percussion Ensemble.**  $\frac{1}{2}$  credit.

**617. Saxophone Trio.**  $\frac{1}{2}$  credit.

**618. Saxophone Quartet.**  $\frac{1}{2}$  credit.

**619. Saxophone Quintet.**  $\frac{1}{2}$  credit.

**620. Saxophone Ensemble.** ½ credit.

**621. Flute Ensemble.** ½ credit.

**622. Horn Ensemble.** ½ credit.

**623. String Ensemble.** ½ credit.

**624. Woodwind Trio/Quartet.** ½ credit.

## **The History and Appreciation of Music**

**100. History and Appreciation of Music.** For the non-music major, a survey of Western music from ancient to modern times. The course is designed to increase the individual's musical perception. May not be taken if the student has completed MU 341 and/or 342. 3 credits.

**306. History and Literature of the Piano.** A survey of the development of the piano and its literature, with emphasis on piano methods books and related materials. Required for piano students majoring in music; open to other students at the discretion of the instructor. 2 credits.

**321. Hymnology.** A study of the historical development of hymns and hymn singing, as well as an in-depth analysis of the current hymnodical practices of the Christian churches. Required for sacred music majors. 2 credits.

**322. Sacred Choral Literature Seminar.** A study of standard oratorios, requiems, cantatas and anthems, with emphasis upon the development of aesthetic judgment in selecting literature for various liturgical settings. Required for sacred music majors. 2 credits.

**341/342. History and Literature of Music I, II.** A survey course in the history of Western Music, with emphasis on stylistic developments and illustrative musical examples. The first semester ends with Bach; the second semester covers Handel to the present. May not be taken if student has completed MU 100. 3 credits per semester.

**351, 352, 353, 354. Organ Seminar I, II, III, IV.** Four semesters of study, preferably in sequence, based upon the investigation of the following: 351-Organ Design and Tonal Evolution; 352-Organ History and Literature. (Early times through the mid-Baroque); 353-Organ History and Literature. (An investigation of organ literature from the time of J.S. Bach to the present); 354-Church Service Playing. Required for organ students majoring in music and sacred music; open to other students with the approval of the instructor. 2 credits per semester.

**421. Liturgy.** A study of the music and its form as related to the historical

development of the current practice of the service of the Christian churches. Required for sacred music majors. 2 credits.

**462. Music Literature Seminar.** A study of music literature to extend the student's familiarity with selected works. Application of accumulated knowledge of theory, music history, form, and twentieth-century music. Each student pursues an individual project of particular interest. Required for music majors. 2 credits.

## Conducting

**246. Principles of Conducting.** The principles of conducting and baton technique. Students conduct ensembles derived from class personnel. 2 credits.

**345. Instrumental Conducting.** Emphasis on practical work with instrumental groups. Rehearsal techniques are applied through individual experience. 2 credits.

**347. Choral Conducting.** Basic conducting techniques applied to the choral idiom. Rehearsal procedures, materials and specific problems of the choral conductor are stressed through laboratory experience. 2 credits.

## Applied Music Instruction

**132. Diction for Singers.** An introduction to the pronunciation of singer's English, German, French, Italian, and Latin, utilizing the International Phonetic Alphabet. Required for sacred music majors and for voice students majoring in music; open to other students with approval of the instructor. 1 credit.

**510. Class Piano Instruction.** 1 credit.

**520. Class Voice Instruction.** 1 credit.

**530. Individual Instruction (Voice, Piano, Organ, Orchestra and Band Instruments).** Piano study (private or class) is required for a minimum of two years. 1 credit.

**540. Individual Instruction (Voice, Piano, Organ, Orchestra and Band Instruments).** A charge is made for the second half-hour of instruction. 2 credits.

**550. Individual Instruction.** Private instruction for Bachelor of Music majors. A charge is made for the second half-hour of instruction. 3 credits.

## **Courses in Sound Recording Technology**

**287. Recording Technology I.** An introduction to the fundamentals of sound recording technology. Topics include sound and listening, the basic audio chain, microphones, tape machines, basic mixers, and equipment interfacing. By the conclusion of the course the student will be able to engineer a multi-microphone two-track stereo recording. Prerequisite: permission of the instructor and the department chairman. 3 credits.

**388. Recording Technology II.** A continuation of MU 287. The course begins with multi-track consoles and tape machines and goes on to cover reverberation, equalization, compressors and expanders, noise reduction, and the db. The emphasis is on critical listening and practical applications. Prerequisites: MU 287; permission of the instructor and the department chairman. 3 credits.

**489. Recording Technology III.** A continuation of MU 388. This course examines sophisticated techniques of recording, microphone placement, special effects, digital audio, digital processors, and tape machine alignment, as well as introductions to electronic music and audio for video. Prerequisites: MU 388; permission of the instructor and the department chairman. 3 credits.

**350. Audio Electronics.** A study of electronics as used in audio engineering. The course examines RC and LC circuits, filters, impedance, audio frequency amplifier circuits, and basic digital theory. Laboratory work is included. Prerequisite: PHY 212. 3 credits.

## **Departmental Honors and Independent Study**

**500. Independent Study.** A course designed for the student who desires to engage in independent study, either with or without departmental honors. 1 – 3 credits per semester. (Maximum of 9)

## **Student Recitals**

The student recitals are of inestimable value to all students in acquainting them with a wide range of the best musical literature, in developing musical taste and discrimination, in affording the experience of appearing before an audience, and in gaining self-reliance as well as nerve control and stage demeanor. Students at all levels of performance appear in these student recitals.

# Philosophy

The study of philosophy directly involves the student in the process of sharpening critical and analytical abilities. In all classes emphasis is placed upon the writing of critical and analytical essays dealing with various aspects of philosophical thought as it pertains to the questions and issues of knowledge, human values and conduct, history, politics, religion, science, society, and the nature of human beings.

The study of philosophy may prepare the student for postgraduate activities such as legal studies, business, or theological and seminary training.

A double major is easily arranged and will aid in insuring a broader program of study in liberal learning.

**DEGREE:** B.A. degree with a major in philosophy.

**MAJOR:** PH 120 plus an additional 21 hours of philosophy courses for a total of 24 hours.

## Courses in Philosophy

**110. Problems of Philosophy.** Examination of major philosophical issues and the ways major philosophers have dealt with them. 3 credits.

**120. Basic Logic.** An introduction to the rules of clear and effective thinking. Attention is given to the logic of meaning, the logic of valid inference, and the logic of factual inquiry. Main emphasis is upon deductive logic, and students are introduced to the elements of symbolic logic as well as to traditional modes of analysis. 3 credits.

**191 – 198. Special Topics.** 1 – 6 credits.

**220. Ethics.** An inquiry into the central problems of values applied to human conduct, with an examination of the responses of major ethical theories to those problems. 3 credits.

**230. Philosophy of Religion.** A study of the issues raised for philosophy by contemporary religious and theological thought. The course includes critical examinations of such problems as faith and reason; the meaning of revelation, symbolism, and language; the arguments for the existence of God; faith and history; religion and culture. 3 credits.

**240. American Philosophy.** A survey of philosophical thought in the United States from the colonial period to the present, with emphasis on the work of Peirce, James, and Dewey. 3 credits.

**260. Ethical Issues in Management.** An examination of ethics and values

within the context of modern corporate organizations. The course considers issues pertinent to corporate responsibility, whistle-blowing, the profit motive, consumerism, bribery, conflict of interest, and cost/benefit analysis. Some attention is given to classical ethical theories; a considerable portion of the course is devoted to case analysis. Prerequisite: MG 100 or PH 110 or by permission. 3 credits.

**291–298. Special Topics.** 1–6 credits.

**323. Ancient Philosophy.** A study of the evolution of philosophy from the pre-Socratic nature philosophers to the Hellenistic philosophers of the fourth century, with emphasis on Plato and Aristotle. Prerequisite: PH 110, or permission. 3 credits.

**326. Medieval Philosophy.** The history of philosophy from the decline of the Hellenistic Age to the Renaissance, with emphasis on the schoolmen of the late Middle Ages. Prerequisite: PH 110, or permission. 3 credits.

**333. Modern Philosophy.** The development of philosophy from the Renaissance to the Nineteenth Century, with emphasis on Hume and Kant. Prerequisite: PH 110, or permission. 3 credits.

**336. Twentieth Century Philosophy.** An examination of representative American, British, and Continental philosophers from 1900 to the present. Prerequisite: PH 110 or permission. 3 credits.

**391–398. Special Topics.** 1–6 credits.

**491–498. Special Topics.** 1–6 credits.

**499. Seminar.**

**500. Independent Study.** Prerequisite: permission. 1–3 credits per semester (maximum of 9).

## Physical Education

Although the College does not offer a major in physical education, two courses are required for graduation. The program encourages attitudes and habits of good health, while developing physical capacities and skills that will enrich life.

### Courses in Physical Education.

**102. Aerobic Dance.** A combination of exercise and dance steps in rhythmic movements. The course promotes the value of a total fitness program, including diet and weight control and heart rate monitoring. 1 credit.

**107. Badminton.** Instruction in the tactics, techniques and rules of badminton. 1 credit.

**110. Basketball.** Instruction in the tactics, techniques and strategies of the game. 1 credit.

**113. Bowling.** Instruction in the techniques, etiquette, history and method of scoring. 1 credit.

**122. Fitness.** Examination of varied programs for fitness, with emphasis on diet and weight control, cardiovascular efficiency, strength improvement, and flexibility training. 1 credit.

**125. Golf.** Instruction in the techniques, tactics, rules and etiquette of golf. 1 credit.

**131. Racquetball.** Instruction in the tactics, techniques and different forms of competition used in racquetball. 1 credit.

**140. Softball.** Instruction in the techniques and tactics of softball. 1 credit.

**146. Tennis.** Instruction in the techniques, rules and tactics, with extensive practice in singles and doubles. 1 credit.

**152. Volleyball.** Instruction in the techniques, tactics and varied forms of competition. 1 credit.

## Physics

The Department of Physics attempts to develop in the student an increased understanding of the basic laws of nature as they relate to the physical environment and to indicate the possible extent, as well as the limitations, of our knowledge of the physical world. As the natural science dealing with forces, motion, energy, heat, sound, light, electromagnetism, electronics, atomic structure, and the structure and interaction of all matter, physics underlies work in all other natural sciences as well as such applied sciences as engineering.

The department offers comprehensive introductory courses for students majoring in any of the natural sciences. Laboratory work is an integral part of many physics courses and is designed to acquaint the student with the experimental techniques and the measuring instruments appropriate to the various areas of investigation.

DEGREE: B.S. degree with a major in physics.

MAJOR: PHY 111, 112, 211, 311, 312, 321, 322, plus six additional semester

hours (at least two in experimental physics), for a total of 30 hours. Also required are MA 161, 162, and 266 or MA 111, 112, 211 and 266.

## **Engineering (Cooperative)**

In the cooperative 3-2 engineering program a student may earn a B.S. degree from Lebanon Valley College and a B.S. degree in one of the fields of engineering from the University of Pennsylvania (or at another cooperating institution). Students who pursue this cooperative engineering program take three years of work at Lebanon Valley College and then, if recommended by the College and accepted by the engineering school, they may take two additional years of work in engineering. After the satisfactory completion of the fourth year of the program, the student receives from Lebanon Valley College the B.S. degree with a major in one of the areas of science or mathematics. At the completion of the fifth year, the student is granted the appropriate engineering degree from the engineering school.

**Requirements:** Required courses at Lebanon Valley College in the 3-2 program include MA 161, 162, 261, and 266; PHY 111, 112, and 211; CH 111 and 113; CS 147 and 242; and ten selected courses in humanities and social sciences.

Additional courses in physics, mathematics, chemistry and biology appropriate for the particular area of engineering are elected in planning the total program to meet the particular needs of the individual student. For mechanical, civil, and electrical engineering, PHY 311, 312, 321 and 322 are among the needed courses.

At the University of Pennsylvania the student may select from among many different engineering fields: bioengineering, chemical engineering, civil and urban engineering, computer science and engineering, electrical engineering and science, mechanical engineering and applied mechanics, metallurgy and materials science, and systems science and engineering. These and other engineering curricula are available at other engineering schools where the student may complete the final two years of the 3-2 program.

Some students decide to complete a four-year program at Lebanon Valley College, earning their baccalaureate degree with a major in physics, chemistry, or mathematics and then moving into a graduate program in the engineering school at a university which leads to a Master of Science degree in a field of engineering.

## Courses in Physics

**100. Physics and Its Impact.** A course designed to acquaint the student with some of the important concepts of physics, both classical and modern, and with the scientific method, its nature and its limitations. The role of physics in the history of thought and its relationships to other disciplines and to society and government are considered. The weekly two-hour laboratory period provides experience in the acquisition, representation, and analysis of experimental data, and demonstration of the physical phenomena with which the course deals. 4 credits.

**103, 104. General College Physics I, II.** An introduction to the fundamental concepts and laws of the various branches of physics, including mechanics, heat, sound, electricity, magnetism, optics, and atomic and nuclear structure, with laboratory work in each area. 4 credits per semester.

**110. The Physics of Music.** A study of wave motion, analysis and synthesis of waves, resonance, physical characteristics of music sounds, musical instruments, the reproduction and amplification of sound, and the acoustical properties of rooms. A working knowledge of algebra is required. 3 credits.

**111, 112. Principles of Physics I, II.** An introductory course in classical physics, designed for students who desire a more rigorous mathematical approach to college physics than is given in Physics 103, 104. Calculus is used throughout. The first semester is devoted to mechanics and heat, and the second semester to electricity, magnetism, and optics, with laboratory work in each area. This course should be followed by Physics 211. Prerequisite or corequisite: MA 111 or 161. 4 credits per semester.

**191–198. Special Topics.** 1–6 credits.

**211. Atomic and Nuclear Physics.** An introduction to modern physics, including the foundation of atomic physics, quantum theory of radiation, the atomic nucleus, radioactivity, and nuclear reactions, with laboratory work in each area. Prerequisite: PHY 104 or 112. 4 credits.

**212. Introduction to Electronics.** The physics of electrons and electronic devices, including diodes, transistors, power supplies, amplifiers, oscillators, switching circuits, and integrated circuits, with laboratory work in each area. Prerequisite: PHY 104 or 112, or permission. 4 credits.

**291–298. Special Topics.** 1–6 credits.

**311, 312. Analytical Mechanics I, II.** A rigorous study of classical mechanics, including the motion of a single particle, the motion of a system of particles, and the motion of a rigid body. Damped and forced harmonic

motion, the central force problem, the Euler description of rigid body motion, and the Lagrange generalization of Newtonian mechanics are among the topics treated. Prerequisites: PHY 111 and MA 266. 3 credits per semester.

**321, 322. Electricity and Magnetism I, II.** Theory of the basic phenomena of electromagnetism, together with the application of fundamental principles to the solving of problems. The electric and magnetic properties of matter, direct current circuits, alternating current circuits, the Maxwell field equations, and the propagation of electromagnetic waves are among the topics treated. Prerequisites: PHY 112 and MA 266. 3 credits per semester.

**327, 328. Experimental Physics I, II.** Experimental work selected from the area of mechanics, A.C. and D.C. electrical measurements, optics, atomic physics, or nuclear physics, with emphasis on experimental design, measuring techniques, and analysis of data. Prerequisite: PHY 211. 1 credit per semester.

**350. Audio Electronics.** A study of electronics as used in audio engineering. The course examines RC and LC circuits, filters, impedance, audio frequency amplifier circuits, and basic digital theory. Laboratory work is included. Prerequisite: PHY 212. 3 credits.

**391–398. Special Topics.** 1–6 credits.

**400. Internship.** 1–15 credits.

**421, 422. Modern Physics I, II.** A study of selected topics in modern physics, utilizing the methods of quantum mechanics. The Schrodinger equation is solved for such systems as potential barriers, potential wells, the linear oscillator, and the hydrogen atom. Perturbation techniques and the operator formalism of quantum mechanics are introduced where appropriate. Prerequisites: PHY 211 and MA 266, or permission. 3 credits per semester.

**430. The Teaching of Physics in Secondary Schools.** A course designed to acquaint the student with some of the special methods, programs, and problems in the teaching of physics in secondary schools. Required for secondary certification in physics. 1 credit.

**490–498. Special Topics.** 1–6 credits.

**500. Independent Study.** 1–3 credits.

## Psychobiology

This cross-disciplinary major emphasizes the physiological determinants and consequences of behavior. Consisting of a balance of psychology and

biology course work, the program prepares students for graduate study in medicine, veterinary medicine, graduate programs in psychology, animal behavior, physiological psychology, psychopharmacology, behavior genetics, and neuroscience, as well as research positions in industry, universities, hospitals, and government laboratories.

**DEGREE:** B.S. degree with a major in psychobiology.

**MAJOR:** BI 111, 112, 201, 322 (20 hours); PSB 444, 499 (4 hours); PSY 100, 120, 216, 236, 335, 443 (18 hours); CH 111, 112, 113, 114, 213, 214, 215, 216 (16 hours); PHY 103/104 or 111/112 (8 hours); MA 161 (3 hours); CS 170 (3 hours).

## **Courses in Psychobiology**

**191–198. Special Topics.** 1–6 credits.

**291–298. Special Topics.** 1–6 credits.

**391–398. Special Topics.** 1–6 credits.

**400. Internship.** Provides supervised research and study opportunities in an industry, government, or hospital setting. Prerequisite: permission. 1–6 credits.

**444. Physiological Psychology.** A study of the biological processes and behavioral events in learning, thinking, feeling, perceiving, and striving; including the neural and hormonal bases for learning and memory. Laboratory work will supplement lecture topics. Prerequisite: PSY 100 or 120. 3 credits.

**491–498. Special Topics.** 1–6 credits.

**499. Psychobiology Seminar.** Readings, discussions, and reports on selected topics in psychobiology. This course may be repeated. 1 credit.

**500. Independent Study.** Prerequisite: Permission. 1–9 credits per semester.

## **Psychology**

Psychology has as its objectives the understanding of people and the fostering of their well-being. The study of psychology, therefore, may be an important part of a liberal education as well as preparation for varied careers. Upon graduation, some psychology majors pursue graduate study in clinical, experimental, or industrial psychology programs; others obtain

professional degrees in social work, medicine, business, education, and the ministry; still others hold responsible positions that make use of their training in industry, government, hospitals, and community agencies.

To assist students in selecting a program that fits their individual career goals, the department has identified seven concentrations: clinical, counseling or school psychology, experimental psychology, human development, industrial/organizational psychology, social psychology, psycho-biology, and general psychology.

Students are also encouraged to pursue individual studies, which may involve an experiment in the laboratory, the use of library sources, or observation in a school, agency, or other setting. Internships are available.

**DEGREE:** B.A. degree with a major in psychology.

**MAJOR:** Psychology 100, 120, 236, 343, and 443; three or four additional courses in psychology are required, with different courses designated for different concentrations. The general concentration requires a minimum of 24 credits; all others require 27. Students with particular career goals or special academic programs may request departmental approval to adjust major requirements to individual needs.

## **Courses in Psychology**

**100. Psychology: The Individual and Society.** An introduction to psychology as a social science. The emphasis is on the interactions of the individual and society which influence development, learning, motivation, sexuality, and identity, as well as social and emotional adjustment. 3 credits.

**120. Psychology: By Experiment.** An introduction to psychology as a behavioral science, with an emphasis upon laboratory research with normal persons. The course presents selected experiments to define concepts, illustrate principles, and specify research methods. Topics may include learning, perception, thinking, memory, and social behavior, as well as research tactics. 3 credits.

**191 – 198. Special Topics.** 1 – 6 credits.

**216. Quantitative Methods in Behavioral Science.** Evaluation of behavioral research, with descriptive and inferential statistics used in experiments and correlational studies. Prerequisite or corequisite: PSY 100 or 120. 3 credits.

**220. Educational Psychology.** Studies of cognitive, behavioral, emotional and social processes in the school; required for certification in elementary and music education. Prerequisite: PSY 100 or 120. 3 credits.

**235. Sensory and Perceptual Processes.** Psychological investigations of visual, auditory, and other sensory systems; the perception of color, space, pictures, and objects. Prerequisite: PSY 100 or 120 or permission. 3 credits.

**236. Learning and Memory.** A study of classical and instrumental conditioning, skills acquisition, information retention and loss, and the learning of concepts. Prerequisite: PSY 100 or 120. 3 credits.

**237. Laboratory Investigations I: Sensory and Perceptual Processes.** A series of experiments and demonstrations on vision, hearing, proprioception, and the skin senses. Topics are coordinated with those in PSY 235. Corequisite or prerequisite: PSY 235 or permission.

**238. Laboratory Investigations II: Learning.** An experimental study of learning, including operant conditioning. Corequisite or prerequisite: PSY 236. 1 credit.

**291 – 298. Special Topics.** 1 – 6 credits.

**321. Psychology of Child Development.** A study of the cognitive, social and emotional changes during childhood, as well as the psychological effects of physical growth. Special attention is given to research studies, developmental mechanisms and theories of development. Prerequisite: PSY 100 or 120. 3 credits.

**322. Psychology of Adolescent Development.** A study of the characteristics of adolescence as well as the research literature and theories concerned with psychological change during adolescence. Topics may include psychological development, social influences, cognitive and intellectual development, emotional development, identity and self-concept, sexual development, values, transition to adulthood. Prerequisite: PSY 100 or 120. 3 credits.

**326. Psychology of Adult Development.** A study of research literature and theories concerned with psychological change in the adult, from late adolescence to death. The course includes the works of such theorists as Maslow and Erikson. Prerequisite: PSY 100 or 120. 3 credits.

**332. Psychological Testing and Assessment.** A review of the principal tests of ability and personality and an introduction to the principles of measurement, methods of test construction, and applications and interpretations of psychological tests. Prerequisites: PSY 100 or 120. 3 credits.

**335. Research Design and Statistics.** An evaluation of published studies and an analysis of the design and execution of laboratory experiments and field studies. Factorial designs, multivariate techniques, and non-parametric statistics are analyzed in clinical, educational, organizational, and laboratory settings. Prerequisites: PSY 100 or 120, 216 or permission. 3 credits.

**337. Organizational Psychology.** A study of psychological principles as applied to problems of organizational behavior, with emphasis on personnel selection, human engineering, group dynamics, systems design, training, leadership, and evaluation. Prerequisite: PSY 100 or 120. 3 credits.

**343. Personality.** A study of the major theories of personality, with emphasis on psychoanalysis and ego psychology, humanism and existential phenomenology, social learning, and trait theory. Prerequisites: PSY 100 or 120: junior or senior standing, or permission. 3 credits.

**346. Social Psychology.** A study of the inter- and intra-personal relationships between individuals and groups, with emphasis on theories and research studies. The topics covered may include attitude development and change, conformity, persuasion, person perception, attribution, attraction, norms, and small groups. Prerequisites: PSY 100 or 120: junior or senior standing, or permission. 3 credits.

**348. Investigations of Social Psychological Processes.** Studies of social psychological processes which are associated with topics included in PSY 346. Laboratory exercises and demonstrations, as well as independent and group research projects, are included; students will design studies, collect and analyze data, and write research reports. Prerequisite: PSY 100 or 120. PSY 216 highly recommended. Corequisite: PSY 346. 1 credit.

**391 – 398. Special Topics.** 1 – 6 credits.

**400. Internship.** An applied academic program combining work in community mental health and related organizational settings, hospitals and schools, with discussions, guided reading, and systematized observations. Prerequisites: PSY 100 or 120, junior or senior standing, permission of department and agency involved. 1 – 9 credits per semester (15 maximum).

**431. Abnormal Behavior and Experience.** A study of mental, emotional and behavioral problems, including alcohol and drug abuse, brain disorders, criminal and psychopathic behavior, neuroses, psychophysiological reactions, psychoses, sexual deviations, subnormal intelligence, and suicide. Prerequisites: PSY 100 or 120; junior or senior standing or permission. 3 credits.

**432. Introduction to Clinical Psychology.** A study of the ways psychologists assist persons and groups. Particular attention is given to assessment, individual and group therapy, marriage and family counseling, and community psychology. Prerequisites: PSY 100 or 120; PSY 431 or nursing training with psychiatric affiliation, or permission. 3 credits.

**443. History and Theory.** A study of philosophical concepts and problems

of relevance for psychology; of early schools of psychology; of theories of learning and personality; and of trends of investigation in different areas, including developmental, social, abnormal, and cognitive psychology. Prerequisites: PSY 100, 120, 236; junior or senior standing; or permission. 3 credits.

**444. Physiological Psychology.** A study of the relationship between biological processes and behavioral events in learning, thinking, feeling, perceiving, and striving, including neural and hormonal bases for learning, memory, and personality. The laboratory includes brain dissections and biofeedback. Findings in biofeedback, sexuality, sleep and behavior disorders are examined. Prerequisite: PSY 100 or 120. 3 credits.

**491 – 498. Special Topics.** 1 – 6 credits.

**500. Independent Study.** Prerequisites: PSY 100 or 120; one additional psychology course and permission. 1 – 6 credits per semester (maximum of 9 credits).

## **Religion**

The program of the Department of Religion is designed to give students insight into the meaning of the religious dimension of human experience. Coursework introduces students to various historical and contemporary expressions of the Judaeo-Christian heritage as well as to the diverse religious traditions of mankind. In general, students major in religion to ready themselves for theological seminary, for careers in Christian education, or to acquire the theological maturity which, in combination with another major, will enable them to function as lay ministers in their chosen profession.

**DEGREES:** B.A. degree with a major in religion. B.A. degree with a major in religion, concentration in Christian education.

**MAJORS:** Religion: RE 110, 111, 112, 222, 331, 404, one course from among 202, 211, 212, and electives (including GK 321, 431). The following courses, though recommended, are not required for a major in religion: BI 101; GK 101/102, 111/112; HI 111/112; PH 110, 231; PSY 100; SOC 110, 231.

Christian Education: RE 110, 111, 112, 120, 211, 202 or 212, 222, 241, 242, 243, 331, 400 (minimum of 3 hours). Other courses in areas such as communication, education, and the social sciences are strongly recommended in consultation with the program advisor.

## Courses in Religion

**110. Introduction to Religion.** An exploration of the many dimensions of religion as a central human experience through an examination of such topics as: varieties of religious experience and expression, religious knowledge, the self and meaning, religion in its sociocultural context, religion and the natural order, and universal issues such as death, the End, evil, suffering, and the moral order. 3 credits.

**111. Introduction to Biblical Religion.** An examination of some of the basic themes of biblical religion in relation to their historical context and their contemporary implications. 3 credits.

**112. Introduction to Christianity.** A study of the rise and development of the major forms of Christianity (Roman Catholic, Eastern Orthodox, Protestant) in Europe and America, including doctrine and theological expression, ethics, worship, church structure, and relationship to culture. 3 credits.

**120. Religion in America.** A study of the origin and development of religious expression in America, with particular attention to Protestantism, Roman Catholicism, and Judaism. 3 credits.

**140. World Religions.** An examination of the rise and development of religion along with a study of the ideas and cultic and ethical practices of the great world faiths. Special attention given to Asian religions. 3 credits.

**191 – 198. Special Topics.** 1 – 6 credits.

**202. The Prophets.** A study of the lives and writings of the Old Testament prophets and an analysis of their contributions to Hebrew-Christian religious thought. 3 credits.

**206. Near East Archaeology and the Bible.** An examination of archaeology in biblical lands, its methods, objectives, and contributions to the areas of history, culture, and religion. 3 credits.

**211. Life and Teachings of Jesus.** An intensive study of the life and message of Jesus as set forth in the Gospels. 3 credits.

**212. Life and Epistles of Paul.** A study of the life, writings, and theological thought of Paul and their relationship to the practices, problems, and beliefs of the early Church. 3 credits.

**222. Christian Ethics.** A systematic analysis of the implications of the Christian faith, both for personal moral decision and for social policy in such areas as marriage and family, government and political life, work and the economic order. Prerequisite: RE 111 or 112. 3 credits.

**230. American Folk Religion.** A study of the folk traditions of selected

American denominations and sects and of the theological implications of secular folklore. Emphasis will be placed on field work as well as on analysis. 3 credits.

**241. Principles of Christian Education.** A study of the overall structure and meaning of Christian education, including education as ministry, history of religious education, theoretical approaches, the impact of other disciplines (sociology, psychology, education), developmental theories, the role of Bible and theology, and contemporary concerns and expressions of Christian education. 3 credits.

**242. Methods of Christian Education.** A study of elements involved in the implementation of a program of Christian education in the local parish, including planning, evaluation, leader development, teaching and learning, resources, skills, and work in the age levels. 3 credits.

**243. Selected Problems in Christian Education.** A study of important themes and issues in Christian education, such as theology and education, conversion and nurture, indoctrination and reflection, developmental models and theological teachings, content-centered or student-centered approach, and the role of the professional. 3 credits.

**291 – 298. Special Topics.** 1 – 6 credits.

**331. Christian Tradition and Reform.** A study of the major and continuing strains in the history of Christianity and the principal reform movements. Required of majors and strongly recommended for all pre-theological students. 3 credits.

**332. The Sacred in Modern Writing.** Identification, analysis, and interpretation of issues of special theological import raised by thinkers representing non-theological disciplines. Prerequisite: RE 110 or permission. 3 credits.

**391 – 398. Special Topics.** 1 – 6 credits.

**400. Internship.** An extension and application of knowledge through a supervised experience in an appropriate church school, agency, or organization. 1 – 6 credits.

**403. Classical Christian Thinkers.** An intensive study of the thought of such classical religious thinkers as Augustine, Aquinas, Luther, and others. 3 credits.

**404. Seminar: Selected Religious Problems.** A study of selected problems arising from recent theological efforts. Research methodology is stressed. Required of majors and strongly recommended for all pre-theological students; others by permission. Prerequisite RE 111 and 112. 3 credits.

**491 – 498. Special Topics.** 1 – 6 credits.

**500. Independent Study.** Request guidelines from advisor. 1 – 3 credits per semester. (maximum of 9).

## Sociology and Social Service

Students major in sociology to benefit from a richer understanding of social processes and experience, and to apply that understanding both to contemporary issues and to the development of their personal identity. Graduates in sociology are qualified to attend graduate school in basic or such applied social science areas as urban planning and organizational behavior, or to assume positions in government or industry in which knowledge of human behavior is valuable.

The major in social service is designed to enable those who are motivated to care for the needs of others to pursue their interests in a variety of professional social work settings. Concentrations available in the department include those in criminal justice, family intervention, gerontology/thanatology.

**DEGREES:** B.A. degree with a major in sociology, B.S. degree with a major in social service.

**MAJORS:** Sociology majors must take SO 110, 311, 421, and 499; plus 15 additional hours in sociology.

Social Service majors must take SOC 110 and 311; SSV 262, 331, 341 or 342, 499, and 9 credit hours of SV 400 Internship; plus 4 additional courses in sociology or social service.

## Courses in Sociology

**110. Introduction To Sociology.** Survey of the major perspectives, methods and topics of sociology, including the nature of society, groups and institutions, socialization, social control and deviance, social change, and the impact of society on individuals. 3 credits.

**120. Introduction To Anthropology.** A survey of the topics and methods of anthropology with emphasis on the interaction of physical, economic and cultural factors in the development of people and their behavior. 3 credits.

**191 – 198. Special Topics.** 1 – 6 Credits.

**210. Social Problems.** Selected problems of contemporary life as seen

through different analytical perspectives. Prerequisite: SO 110, or GE 140, or HC 202. 3 credits.

**211. Urbanology.** An analysis of the city as a unique form of social organization. From a multi-disciplinary perspective, the course presents the nature of urbanization and the impact of urbanism on contemporary society. Prerequisite: SO 110, or GE 140, or HC 202. 3 credits.

**230. Sociology of Marriage and the Family.** An overview of marriage and the family as institutions. The interpersonal dynamics of marriage and family life are studied from sociological, historical, and cross-cultural perspectives. Prerequisite: SO 110, or GE 140, or HC 202. 3 credits.

**261. Gerontology.** An investigation of the ways in which individuals, families and communities respond to aging and the aged. Prerequisite: SO 110, or GE 140, or HC 202. 3 credits.

**278. Juvenile Delinquency.** An empirical and theoretical examination of juvenile delinquency, the juvenile justice system and treatment programs for the juvenile offender. Prerequisite: SO 110, or GE 140, or HC 202. 3 credits.

**291 – 298. Special Topics.** 1 – 6 credits.

**311. Research Methods.** A study of the basic skills needed to criticize and carry out social science research. Prerequisite: SO 110, junior standing, or permission. 3 credits.

**322. Sociology of Religion.** The structure and functions of religious organizations and phenomena with emphasis on the varieties of religious expression in America. Prerequisite: SO 110, or GE 140, or HC 202. 3 credits.

**331. Criminology.** An examination of the nature, causes, and correlates of criminal behavior. Prerequisite: SO 110, or GE 140, or HC 202. 3 credits.

**333. Criminal Justice.** A sociological, historical, and philosophical examination of punishment and the criminal justice system. Prerequisite: SO 110, or GE 140, or HC 202. 3 credits.

**351. Thanatology.** Exploration of the basic legal, medical, ethical and social issues related to the contemporary understanding of death and dying. Prerequisite: SO 110, or GE 140, or HC 202. 3 credits.

**362. Social Inequality.** An examination of the patterns of structured inequality in American society, including the class system and racial and ethnic groups. Consideration will be given to basic social processes, unique historical contexts, and emergent contemporary developments. Prerequisite: SO 110, or GE 140, or HC 202. 3 credits.

**391 – 398. Special Topics.** 1 – 6 credits.

**400. Internship.** Prerequisite: 18 hours in sociology and permission. 1 – 15 credits.

**421. Social Theory.** An intensive examination of the major sociological theorists and movements. Prerequisite: 12 credits in sociology. 3 credits.

**491 – 498. Special Topics.** 1 – 6 credits.

**499. Seminar.** A critical analysis of selected themes and issues in contemporary sociology. Prerequisite: SO 421. 3 credits.

**500. Independent Study.** Prerequisite: 18 hours in sociology, a 2.5 cumulative grade point average, and a contract with the instructor prior to registration for the course. 1 – 3 credits per semester. Maximum of 9.

## Courses in Social Service

**191 – 198. Special Topics.** 1 – 6 credits.

**262. Social Welfare.** An introduction to social welfare policies and institutions. Prerequisite: SO 110. 3 credits.

**291 – 298. Special Topics.** 1 – 6 credits.

**331. Social Service Theory.** Consideration of the theories which underlie social service intervention at the individual, familial, group, community, and societal level. Prerequisite: SV 262. 3 credits.

**341. Social Work Practice: Direct Methods.** An examination of the knowledge, attitudes, and skills required for professional social work practice, emphasizing the methods of social casework, social group work, and family therapy. Prerequisite: SV 331. 3 credits.

**342. Social Work Practice: Indirect Methods.** An examination of the knowledge, attitudes, and skills required for professional social work practice, emphasizing the methods of community organization, social action, and social planning. Prerequisite: SV 331. 3 credits.

**345. Family Therapy.** The theory and practice of family therapy, focusing on the work of prominent family therapists such as Satir, Minuchin, Haley, and others. Prerequisite: SO 230 and SV 341, or permission. 3 credits.

**391 – 398. Special Topics.** 1 – 6 credits.

**400. Internship.** A supervised field placement in a public or private social service agency or program. Prerequisites: SV 341 or 342, 40 hours of volunteer work, and permission. 1 – 15 credits.

**491 – 498. Special Topics.** 1 – 6 credits.

**499. Seminar.** Detailed study of a selected social work area. Prerequisite: SV 341 or 342. 3 credits.

**500. Independent Study.** Prerequisite: SV 341 or 342, a cumulative grade point average of 2.5, and a contract with the instructor prior to registration for the course. 1 – 3 credits (maximum of 9).

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## **Administration**

### **President**

ARTHUR L. PETERSON, 1984-; President. A.B., Yale University, 1947; M.S.P.A., University of Southern California, 1949; Ph.D., University of Minnesota, 1962.

MARY N. ESHLEMAN, 1979-; Executive Secretary to the President.

### **Presidential Staff**

HOWARD L. APPLEGATE, 1983-; Vice President for Special Programs and Dean of Continuing Education, 1984-. B.A., Drew University, 1957; M.A., Syracuse University, 1960; Ph.D., 1966.

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GEORGE R. MARQUETTE, 1952-; Vice President for Student Affairs, 1984-. A.B. Lebanon Valley College, 1948; M.A., Columbia University, 1951; Ed. D., Temple University, 1967.

JOHN D. NORTON III, 1971-; Acting Dean of the Faculty, 1985; Associate Professor of Political Science. B.A., University of Illinois, 1965; M.A., Florida State University, 1967; Ph.D., American University, 1973.

ROBERT C. RILEY, 1951-; Controller, 1962-; Vice President, 1967-. B.S. in Ed., Shippensburg State College, 1941; M.S., Columbia University, 1947; Ph.D., New York University, 1962; C.P.M., 1976.

JOHN ABERNATHY SMITH, 1980-; College Chaplain. B.A., Vanderbilt

University, 1961; M.Div., Drew University, 1965; M.A., Johns Hopkins University, 1967; Ph.D., 1971.

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### **Academic Affairs**

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ELOISE P. BROWN, 1961–; Readers' Services Librarian. B.S.L.S. Simmons College, 1946.

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ALICE S. DIEHL, 1966–; Technical Processes Librarian. A.B., Smith College, 1956; B.S., Carnegie Institute of Technology, 1957; M.L.S., University of Pittsburgh, 1966.

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JOHN J. UHL, 1980–; Director of Media Services. B.S., Lebanon Valley College, 1979.

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HENRY GLENN HOSTETTER, 1984-; Instructor, Leadership Development Institute, 1984-; B.A.; Lebanon Valley College, 1949; M.A., The Pennsylvania State University, 1956; Ph.D., University of Colorado, 1963.

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KATHLEEN L. THACH, 1977-; Assistant Director of Development, 1985. B.S., Lebanon Valley College, 1985.

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## **Communications Staff**

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## **Alumni Services**

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## **Business Affairs**

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RONALD G. EVANS, 1972-; Director of General Institutional Services.

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ROBERT E. HARNISH, 1967-; Manager of the College Store. B.A., Randolph Macon College, 1966.

HAROLD L. FESSLER, 1984-; Director of Maintenance.

DAVID J. MICHAELS, 1981-; Director of Food Service and Conferences. A.A.S., Morehead State University, 1975.

DELLA M. NEIDIG, 1962-; Director of Housekeeping, 1972-.

STEPHEN SHOOP, 1977-; Director of the Computer Center. B.S., Lebanon Valley College, 1974.

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KEVIN R. YEISER, 1982-; Director of Grounds.

SAMUEL J. ZEARFOSS, 1952-; Superintendent of Buildings and Grounds, 1969-.

## **Student Affairs**

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VERONICA FABIAN, 1984-; Staff Nurse. R.N., Spencer Hospital, Meadville, 1961.

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ROBERT M. KLINE, 1970-; College Physician. B.S., Lebanon Valley College, 1950; M.D., Jefferson Medical College, 1955; B.A., Lebanon Valley College, 1971.

LOUIS A. SORRENTINO, 1971 –; Director of Athletics, 1981 –; B.A., Lebanon Valley College, 1954; M.A., Bucknell University, 1961.

CHERYL REIHL WEICHSEL, 1982 –; Director of Student Activities. B.S.H.E., University of North Carolina at Greensboro, 1977; M.Ed., University of Connecticut-Storrs, 1980.

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ROSEMARY YUHAS, 1973 –; Associate Dean of Students, 1983 –. B.S., Lock Haven State College, 1966. M.Ed., West Chester State College, 1970.

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## Athletic Staff

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RANDY BEHNEY, 1985 –; Soccer Coach. B.S., Lock Haven State College, 1978.

LEWIS COOKE, JR., 1985 –; Equipment Manager.

GORDON S. FOSTER, 1982 –; Men's Basketball Coach. B.A., Elizabethtown College, 1951; M.S., Bucknell University, 1968.

JODI FOSTER, 1985 –; Women's Basketball and Track Coach. B.S. Milliken University, 1984; M.S., Eastern Illinois University, 1985.

TERRY KLINE, 1984 –; Athletic Trainer. B.S., Millersville State College, 1969; M.S., Central Missouri State University, 1976.

ALLAN LASKOWSKI, JR., 1982 –; Assistant Men's Basketball Coach.

THOMAS NELSON, 1984 –; Lacrosse Coach, Assistant Football Coach; B.S., Towson State University, 1977.

GERALD J. PETROFES, 1963 –; Golf Coach; Wrestling Coach. B.S., Kent State University, 1958; M.A., Kent State University, 1962.

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JAMES SMITH, 1982 –; Women's Basketball Coach. B.A., Moravian College, 1954.

LOUIS A. SORRENTINO, 1971 –; Football Coach. B.A., Lebanon Valley College, 1954; M.A., Bucknell University, 1961.

ED SPITTLE, 1985 –; Baseball Coach.

KATHLEEN TIERNEY, 1983 –; Women's Field Hockey Coach; Women's Lacrosse Coach. B.S., University of New York at Brockport.

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# Faculty

## Emeriti

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RUTH ENGLE BENDER, 1918–1922; 1924–1970; Professor Emerita of Music Education. A.B., Lebanon Valley College, 1915; Oberlin Conservatory; graduate New England Conservatory.

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CARL Y. EHRHART, 1947–1983; Professor Emeritus of Philosophy and Dean Emeritus. A.B., Lebanon Valley College, 1940; M.Div., United Theological Seminary, 1943; Ph.D., Yale University, 1954.

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GLADYS M. FENCIL, 1921–1927; 1929–1965. Registrar Emerita. A.B., Lebanon Valley College, 1921.

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ELIZABETH M. GEFFEN, 1958–1983; Professor Emerita of History. B.S. in Ed., University of Pennsylvania, 1934; M.A., 1936; Ph.D., 1958.

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DALE J. ERSKINE, 1983-; Assistant Professor of Biology. B.A., University of Maine at Portland, 1974; M.A., SUNY College at Buffalo, 1976; Ph.D., University of Oklahoma, 1981.

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SHERMAN T. FOLLAND, 1985-; Assistant Professor of Economics; B.A., Concordia College, 1968; Ph.D., University of Iowa, 1974.

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Harrisburg Hospital: Medical Director of Laboratories, Him W. Kwee, M.D.; Program Director, Janice M. Fogelman, M.Ed., M.T. (ASCP)

Polyclinic Medical Center of Harrisburg: Director, Julian Potok, D.O.; Educational Coordinator, Margaret A. Black, M.T. (ASCP)

Lancaster General Hospital: Director, Ward M. O'Donnell, M.D.; Educational Coordinator, Margaret A. Black, M.T. (ASCP)

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JUNE S. ZEITERS, Student Activities Office

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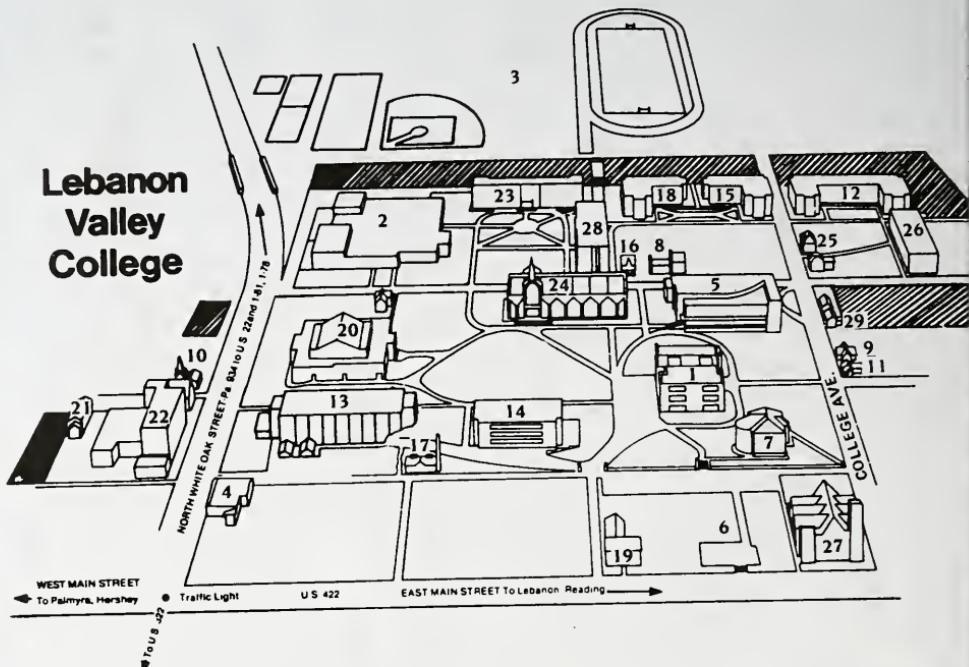
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1. Administration Building (Controller, Financial Aid, History & Political Science, Management, Mathematical Sciences, Registrar)
2. Allan W. Mund College Center
3. Arnold Field
4. Art Studio
5. Blair Music Center (Education, Music)
6. Bollinger Plaza (South Entrance)
7. Carnegie Building (Admissions)
8. Centre Hall
9. English House (112 College Avenue)
10. Fencil Building (Conference Center)
11. Foreign Language House (104 College Avenue)
12. Funkhouser Hall
13. Garber Science Center (Biology, Chemistry, Physics, Psychology, Sociology)
14. Gossard Memorial Library (Computer Center)
15. Hammond Hall
16. Health Center
17. Heating Plant
18. Keister Hall
19. Laughlin Hall
20. Lynch Memorial Gymnasium
21. Maintenance Annex
22. Maintenance Center and Special Services (Security) Office
23. Mary Capp Green Hall
24. Miller Chapel (Chaplain, Philosophy, Religion)
25. North College
26. Silver Hall
27. United Methodist Church
28. Vickroy Hall
29. Wagner House (124 College Avenue)



LEBANON VALLEY  
COLLEGE

*Founded 1866*



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